THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

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THE COLUMN IN RENAISSANCE ARCHITECTURE.

THERE is a considerable diversity of opinion among architects as to the extent to which the column should be used in Renaissance architecture, and it is held by many that its true function should be confined to free standing porticoes and colonnades of considerable size, in the manner in which it was employed in Greek architecture. The critics forget that an overwhelming mass of evidence tends to show the almost complete Hellenistic origin of Roman architecture, which probably indicates the form later work would have taken had not the development of Greek art been stopped by the absorption of Greece in the Roman Empire. In Roman architecture we can trace the prototypes of most of the forms and combinations employed in Renaissance architecture. The early use of the column in the Florentine Renaissance was chiefly a decorative one of comparatively small scale, as we find used in the Portico of the Pazzi Chapel and much of Brunelleschi's work, and in details like the windows of the Palazzo Ruccelai, by Alberti, while the pilaster forms a flat wall strip rather than the respond of a column as in later work. Early Italian buildings are usually astylar in character, depending for their effect on panelling and wall treatment by rustication and other means, but in the work of Palladio and the later Renaissance the column and pilaster completely dominated and framed the other details of composition; while in the work of the middle Renaissance columnar architecture held an intermediate position, which is exemplified in the work of Bramante, Peruzzi, and Michelangelo.

In Venice the column was used throughout the whole of the Renaissance period, but in a manner which is indicative of the extremely strong Byzantine influence which always characterised the work of Venice, and which has no real counterpart elsewhere.

Comparatively speaking, until the work of Gabriel, in the period of Louis XVI., the column and pilaster were secondary adjuncts in French composition, which was the outcome of more complex and varied influences than the Italian Renaissance. Italian architecture more than any other is the result of that process of academic design which is so ably described by Mr. Scott in his "Architecture of Humanism." An Italian façade is frequently suggestive of the untrammelled imagination of the painter, while French Renaissance bears marked signs of the influence of preceding styles and the methods of construction inherited from mediæval times. Thus we find the dormer and mansard roof and recessed planes treated with rustication of every imaginable variety and taking their place throughout the French Renaissance, as constituent factors of composition, while the column is sparingly employed. In our own Renaissance, though mediæval influences were even stronger, they had less effect, for the styles we call Elizabethan and Jacobean were so crude and unworkable, and so poor a contribution to the development of our national architecture, that the Renaissance may be said to have been originated with the Palladian wave which so strongly influenced the work of English designers, and from which alone the work of Inigo Jones and the earlier work of Wren are free. Had our own previous architecture possessed equal merit to that of the Henri IV. and Louis XIII. periods in France, it could not have failed in having a strong influence on the future, but unfortunately it cannot be considered to be of the same order of merit.

We know that Wren's foreign visits took him no farther than Paris, and that what he knew of Italian art was gained second-hand, though he met Bernini in Paris. It was, therefore, natural that his work should be more influenced by the contemporary work of France than by that of Italy, while the character of French buildings was more in harmony with a nature which was extraordinarily resourceful and inventive. The churches of Wren are astylar rather than columnar in character, and in their detail we see a similar mastery of methods of building up various forms into compositions; they show mastery of form, though falling far short of the skill and knowledge of detail shown in the work of Italy. No other architect has shown greater grasp of composition than is shown by Wren's detail for the upper range of windows of St. Paul's, and the manner in which the crux of the different internal and external fenestration is expressed. Whether right or wrong in architectural ethics it formed a supreme test of skill. The work of Wren's successors, of Gibbs, Vanbrugh, Chambers, and Gandon, show how complete a hold the principles of Palladio obtained here, and fine as is much of our architecture it cannot be denied it has lost interest and character by the over-use of one means of expression. The giant order embracing several stories, whether carried out with columns or pilasters, tends to become monotonous and gives some pretext for the criticism of those who consider the Renaissance to be a method of fettering thought and invention, rather than what it is in the hands of some of the masters—a means by which a nearer approach can be made to logical refinement and reticence in style. Palladianism means the application of a universal method by which the designer, having divided his building into vertical strips, proceeds to fit his detail into these strips, so limiting the range of the poetry of architectural expression. But it is clear that the use of the column must be a consistent one, and, if used in the manner of Palladio, it is robbed of its impressiveness by the introduction of the order on a smaller scale in adjoining detail. The precedent of the developed Italian Renaissance of Bramante and Peruzzi, and much of the French Renaissance, afford a better example of the extent to which the orders may most suitably be used in our architecture of to-day, and, as we have said, Wren's work has much of the same character, for the greatest of our English architects used columns sparingly in the French manner, rather than allowing them to dominate his compositions.

The Palladian treatment is, however, often happier in effect than any other in a large quadrangular mass like Greenwich Hospital, where it possesses advantages which would with difficulty be obtained by any other treatment. With grouped buildings, or those arranged on quadrangular lines, the Palladian method of employing pilasters and columns serves to accentuate the suggestion of the unity of a composition which otherwise would be difficult to convey. The disposition of the richer columned portions, with their pediments or attics, can in such groups be used to accentuate the salient features of the design, and their repetition conveys the necessary suggestion of unity of conception. Conversely the Palladian treatment is least suitable to façades of moderate length, especially when the returns of the frontages are not visible. The real basic reasons for the satisfaction we feel in certain architectural effects, and the failure of others to satisfy, are usually easy to discover. We dislike what is difficult to comprehend visually with ease, as a large, spread-out rectangular or quadrangular mass is, and we therefore instinctively like the Palladian note in such masses, as it renders their unity more easily recognisable, while the same treatment applied to a narrow street frontage often detracts from its sense of unity, which is best conveyed by a flat, unbroken treatment and a greater emphasis on horizontal rather than vertical values.

Commonplace mediocrity will be the effect unless the Order dominates the building, or, on the other hand, the building dominates the use of the Order, relegating it to a position of secondary importance, for the column may be described as being a good master or an efficient servant, while between these limits there is no safety for the designer.

NOTES.

York Town Planning Competition.

YORK is following the example of other large centres by instituting a competition to solve the problem of future development of the city. We gather from the conditions and plan that the districts to be developed in the competitors' schemes are three in number, but that further additional areas will subsequently be dealt with, though it is not suggested that the competitor whose scheme is placed first will be called upon to design them. Possibly the authorities consider that when they are in possession of the competition schemes they can plan others on similar lines suggested by the manner in which the first three areas are dealt with by the successful competitor. The competition promises to be an interesting and important one, but the conditions as they stand need some radical revision. The proposal is to lay down the plan on which the City of York is to be developed in the next thirty years, and for this the competitor whose scheme is placed first is to receive a premium of £100! Seeing in the first place that those competitors who have not local knowledge must visit York and spend some days there studying the districts to be planned, and considering local features, and will have to pay £5 to £10 in expenses; and, in the second place, that a town-planning competition does not mean anything to the successful competitor except the premium, the premium should be a much larger one. The conditions laid down in the recent Bradford Town-planning competition were admirable in this respect, and the response to the invitation to competitors showed they were appreciated. The City Council of York would do well to remember that it is in their interests to be more liberal in their offers to professional men, as a liberal expenditure on premiums will mean that they will attract the best men, and a further condition of the competition should provide for the employment of the successful competitor to draw up schemes for the additional areas mentioned in the conditions and for an adequate fee to be arranged.

Smaller Town Houses.

WE are told that one of the effects of the war will be to create a greater demand for smaller houses, and this will hold good for town and country alike. Presumably smaller houses will be wanted because they are more economical, but economy in space is usually desired because it means economy in service, and the solution of the difficulty is to obviate the necessity for much service. We should like to see some speculator try the experiment of building a row of, say, ten to twelve houses in one block, and providing them with one central heating centre, eliminating all fireplaces except possibly those in the sitting-rooms. The rents would have to include the charge for heating and water supply, and the cooking might be done by electricity or gas throughout. Such an experiment would need a little courage at the outset, as unless the whole of the houses let readily the working expenses in connection with the heating might be heavy; but we believe there are many localities where it would be safe to build such houses, and that they would soon become very popular among the large class of those who like to have the privacy of a house, but who find the servant difficulty a growing one, as a house of five or six bedrooms could probably be run with a servant less than one arranged on the usual plan. Many also would appreciate the advantage of having a constant supply of hot water, independently of the cook's management of a range, as well as the provision of heat in bedrooms without the labour of lighting fires.

Works Pupils' Building Course, Sheffield.

THE University of Sheffield have arranged a Works Pupils' Certificate Course (Building Section), in consultation with the Sheffield Master Builders' Association, to meet the requirements of students who are working with the object of becoming master builders, or of occupying other important positions in building businesses. The course has been arranged on the lines of the Works Pupils' Certificate Course in Engineering, the students attending the day courses of study at the University during the winter six months (October to March inclusive) and at the works during the summer six months (April to September inclusive). A Works Pupils' Certificate (Building Section) is awarded to students who complete the three years course and pass the necessary examinations. It is considered that by taking this course a student will acquire that knowledge of scientific and theoretical matters which will enable him to benefit more fully from his practical work during apprenticeship, and which will be of still greater value to him in later years. The next session begins on October 1, and the entrance examinations for candidates under twenty years of age, who have not passed an approved examination, will be held on September 20 and October 1. We may add that the lecturer is Mr. W. S. Purchon, M.A., A.R.I.B.A., under whose control the course should be an unqualified success.

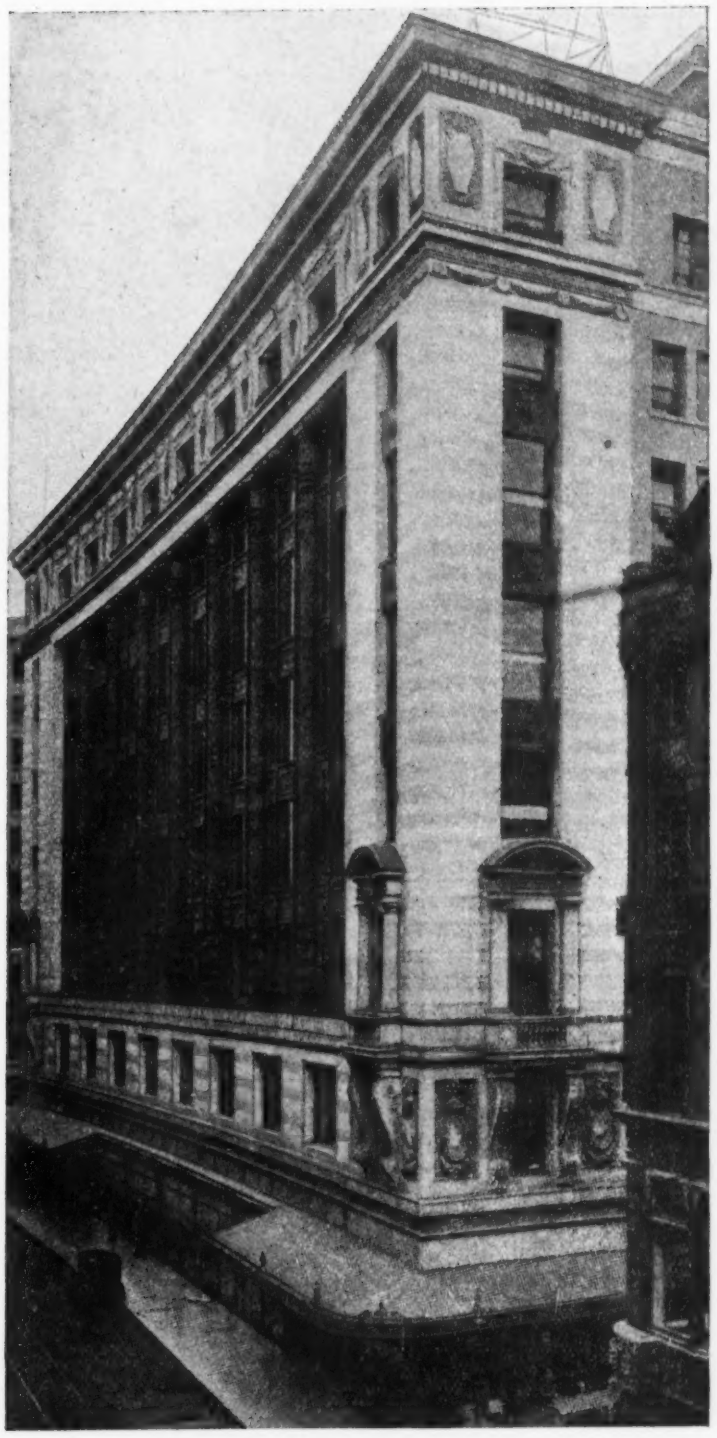
Dime Savings Bank Building, Detroit, Mich.

Conway Building, Chicago.

Messrs. D. H. Burnham & Co., Architects.
(From the *Architectural Record*, New York.)

Continental and Commercial National Bank Building, Chicago.

Messrs. D. H. Burnham & Co. and Messrs. Graham, Burnham, & Co., Architects.



Store of Messrs. Wm. Filere's & Sons, Boston.

Messrs. Graham, Burnham, & Co., Architects.

(From the *Architectural Record*, New York.)

THE ARCHITECTURAL WORK OF DANIEL HUDSON BURNHAM.

DANIEL HUDSON BURNHAM died on June 12, 1912, having been in practice for a period of about forty years. His preliminary experience was gained in the offices of W. B. L. Jeuney, John Van Odsel, L. G. Larcon, and Carter, Drake, & White, where he met John Wellborn Root, who was subsequently associated in partnership with him through the greater part of his career. Burnham commenced practice in 1873, and between that date and his death in 1912 he was responsible for the greatest amount of work which has ever fallen to an architect in modern times, and which necessitated the services of a staff which would be considered large even if attached to a public architectural department, as many as 180 assistants having been in the employ of the firm at one time.

Root was generally held to represent the artistic side of the profession and Burnham the business and administrative element, and this was largely the case; but the direction of Burnham's genius was shown in the original conceptions of plans and the largeness of handling which characterises the best of his work, qualities which specially fitted him to deal with new problems in design and construction such as the skyscraper and the immense town plans to which we have referred in a previous article, which formed a part of the legacy left by him to the "science" of modern architectural development. Up to 1881 the work of Burnham and Root included all types of buildings that called for artistic expression, which was beginning to be appreciated in the West, and the basis of these earlier designs is the frank expression of the purpose of the structure with little regard for academic correctness, and, like other work of the time, much of it was designed in the Romanesque manner of H. H. Richardson. The Chicago Club is a good type of the firm's earlier work, and is marked by the usual semicircular arches and grouped windows carried out in roughly dressed stonework. The First Regiment Armoury, built in 1882, shows the same feeling, while in the Masonic Temple, Chicago, built in 1890, a building of nineteen stories in height, we have one of the early skyscrapers treated with gabled roofs, the long ranges of windows between piers being grouped under semicircular heads, and ranges of dormers breaking up the roof slopes. The Women's Temple, Chicago, built in 1891, is designed on similar lines, while the "Rookery" was another typical building of the period. All these buildings were erected with solid masonry walls, those in the Monadnock building being sixteen stories in height above the pavement. The success of Messrs. Holabird & Roche in erecting the Tacoma building with exterior walls carried independently from floor to floor on iron girders, carried in turn on cast-iron columns, led the way to the introduction of the modern skyscraper, the most original American feature in modern building, and the development of this type was one of the problems that Burnham succeeded in solving in fitting architectural terms.

The architectural problem of the skyscraper is not that of a tower, although it sometimes assumes almost tower-like proportions, but that of treating a mass containing an immense number of equal-sized windows so as to concentrate attention on main lines and subordinate the effect of a repetition of detail. It will be observed that this is usually effected now by treating the lower two or three stories as one unit and the upper stories as another, using detail in their design, while the intervening expanse of wall with its regular succession of windows is left unaccentuated. In this

Frisco Railway Terminal Station, New Orleans.
Messrs. D. H. Burnham & Co., Architects.
(From the *Architectural Record*, New York.)

way a sense of architectural scale and interest is created which obliterates to a large degree the feeling of discomfort created by repetition, but, like all architectural principles of design, a satisfactory solution has been the result of much tentative experiment.

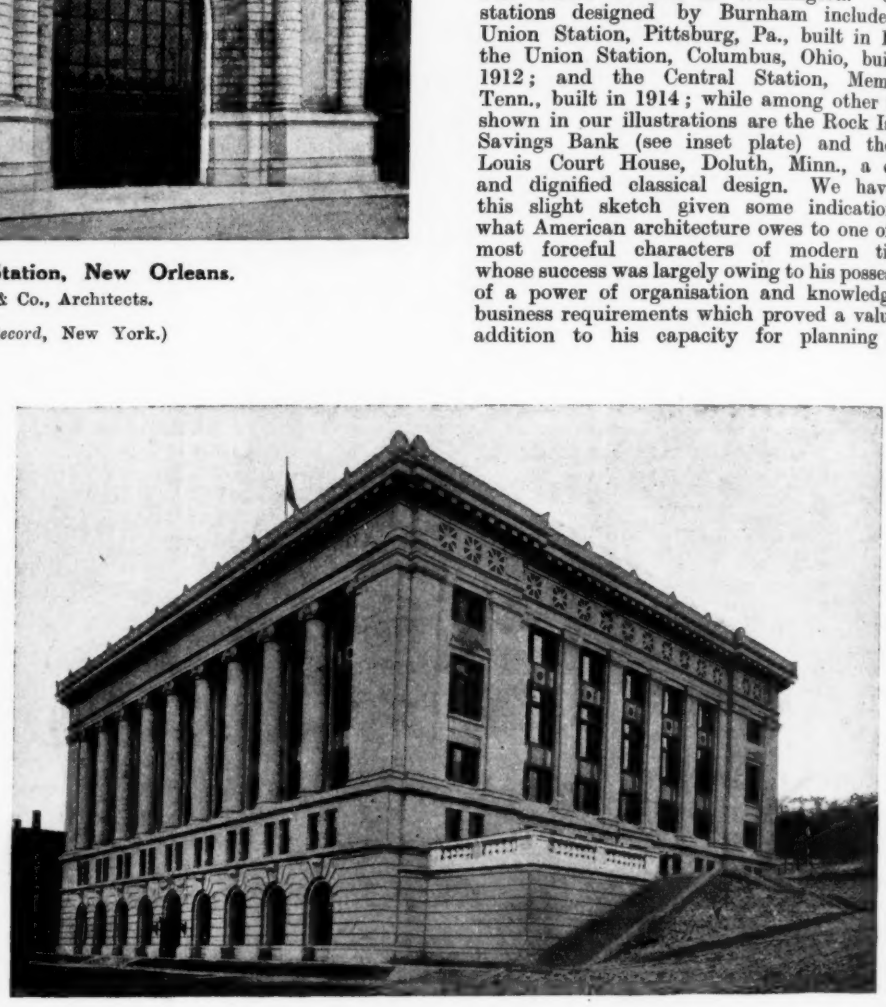
The World's Fair at Chicago in 1892 divides Burnham's career into two parts, in the first of which he was associated with Root, and worked in a free or Romanesque manner, while in the second, after his partner's untimely death, he was associated with Mr. Graham and others, under the name of Messrs. D. H. Burnham & Co. and Messrs. Graham, Burnham, & Co., the work of the last period showing the influence of the Renaissance wave which held complete sway in the Eastern States, and which owed no small part of its power to the personality of Charles McKim and his associates.

In Burnham's work there is, as our illustrations show, little of the delicate refinement which characterised the work of Messrs. McKim, Mead, & White, but, on the other hand, there is always a marked perception of the salient qualities of architectural expression and suitable reticence in the use of features, while the treatment of sectional and plan requirements is usually that of a master.

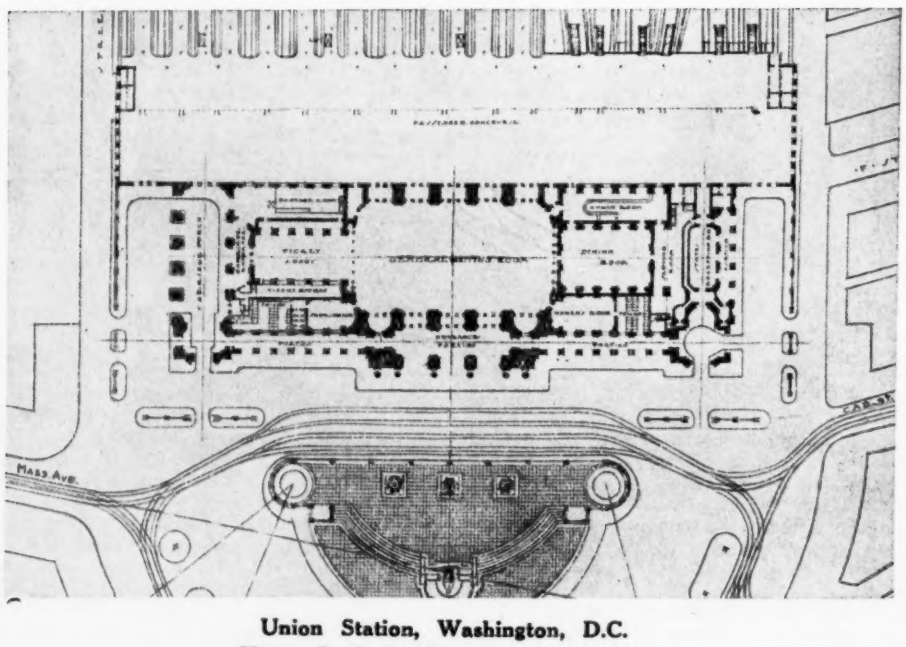
Besides the skyscraper, other new problems which were successfully solved by Burnham were those of the large retail store and the railway-station. The well-known Wanamaker store, in which the departments are grouped round a great top-lighted court, is an early example somewhat resembling an elementary central hall school, while the store of Messrs. Wm. Filere's and Sons shows an extremely effective treatment of window space divided by iron, in which the proportion and disposition of stone and ironwork are unusually happy.

The Dime Savings Bank is interesting in plan and elevation, though not as ambitious in character as the Continental and Commercial National Bank Building, Chicago, of which we illustrate the plans (see page 171) and view of the fine internal banking hall (see inset page).

We give illustrations of the Frisco Terminal Station at New Orleans and a plan of the fine Union Station at Washington. Other stations designed by Burnham include the Union Station, Pittsburg, Pa., built in 1902; the Union Station, Columbus, Ohio, built in 1912; and the Central Station, Memphis, Tenn., built in 1914; while among other work shown in our illustrations are the Rock Island Savings Bank (see inset plate) and the St. Louis Court House, Doluth, Minn., a quiet and dignified classical design. We have in this slight sketch given some indication of what American architecture owes to one of the most forceful characters of modern times, whose success was largely owing to his possession of a power of organisation and knowledge of business requirements which proved a valuable addition to his capacity for planning and grasping the essentials of design and construction. The World's Fair was the first great exhibition the conception of which was an absolute artistic success, and that success must be put down to Burnham's power of conceiving architectural mass in relation to space, a gift possessed by few. We are enabled by the courtesy of the *Architectural Record* to reproduce from that journal the illustrations we give.



St. Louis County Court House, Doluth, Minn.
Messrs. D. H. Burnham & Co., Architects.
(From the *Architectural Record*, New York.)



Union Station, Washington, D.C.
Messrs. D. H. Burnham & Co., Architects.
(From the *Architectural Record*, New York.

H.M.'S OFFICE OF WORKS' EXPENDITURE.

The Committee (over which the Chancellor of the Exchequer presides) on Retrenchment in Civil Departments of the Government have made a scrutiny into the expenditure of the Office of Works, to whom is committed the custody of the Royal Palaces, the Tower, the parks, and all public buildings occupied by civil departments. The items under review comprise £159,500 for the current financial year in respect of salaries and office expenses (an average of £7,226 over last year's vote); £140,000 for salaries, wages, and allowances to 437 persons (as compared with £138,574 to 441 persons last year), and travelling expenses, £12,000 (no increase). Besides the vote of £159,500, as above, the estimates of other departments contain items to an aggregate of £53,342 for expenses in connection with the Office of Works, such as office accommodation, £22,425; rates, £4,600; pensions, etc., £11,235; and Post Office, £8,135.

ARCHITECTURE AND PEACE.

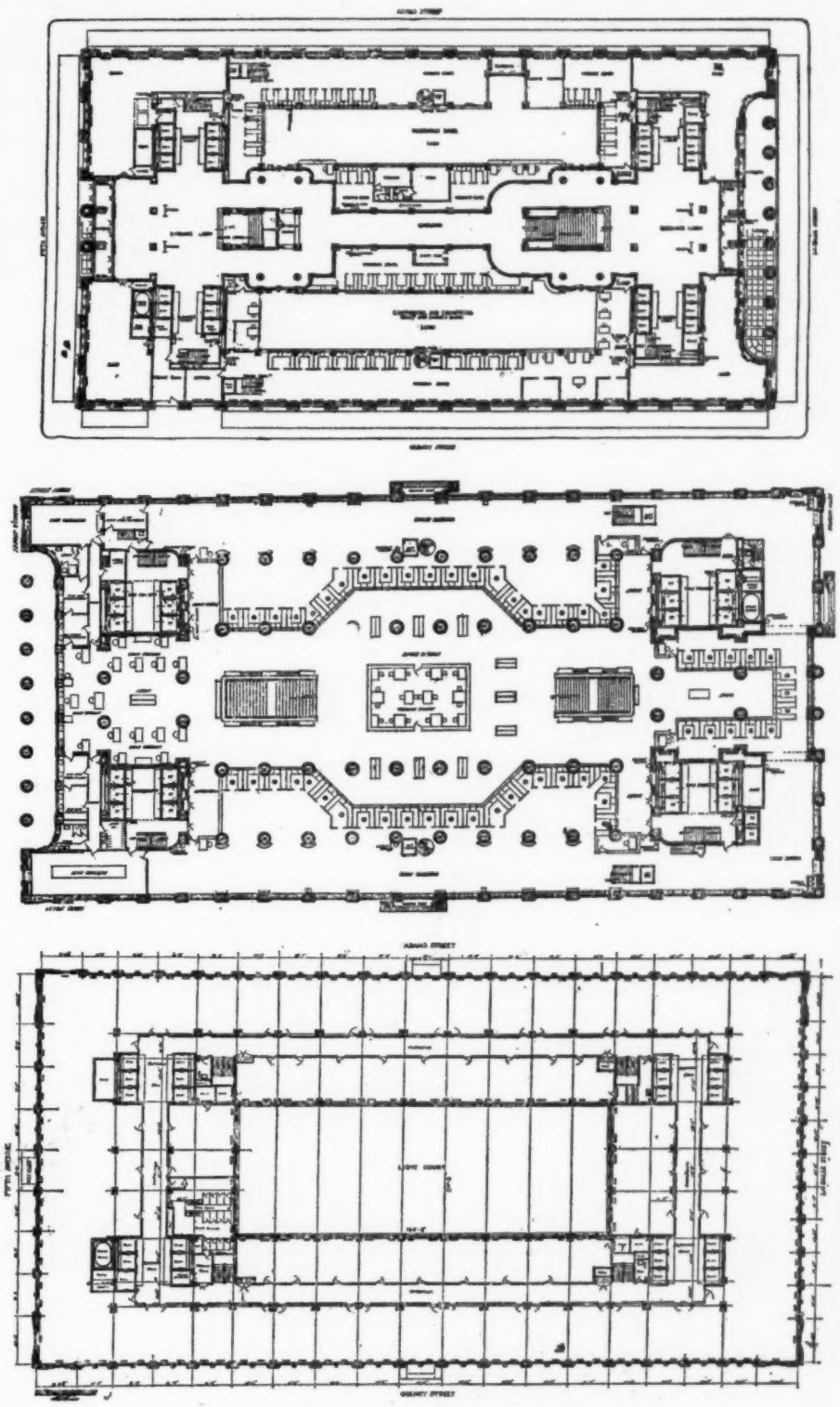
THE periodic revival or rebirth of art is a phenomenon too familiar for comment, but it may not be uninteresting to inquire whether, as is sometimes alleged, the peace that follows on a great convulsion is necessarily productive of great art. Certain it is that that peace which Tennyson described, and was bitterly abused for describing, as a long, long canker, is not in favour of great art. Italy was at peace in the seventeenth and eighteenth centuries as she never was in the fifteenth and sixteenth, but it was not the untroubled centuries that gave us Titian and Botticelli; England was at peace between 1815 and 1854, but the art of the Great Exhibition of 1851 is not that to which posterity looks back with regret. Yet war does not usually produce great art of itself, though it may train and mould great artists. It is rarely indeed that a work of art of the highest rank is produced while a country is in the throes of a life and death struggle. "Paradise Lost" waited for the Restoration, and Milton is rarely judged by the political sonnets of his active years; the great outburst of church building in fifteenth-century England after the exhaustion of the French wars lay outside the curiously local conflicts of the Wars of the Roses; Florence again was only free to devote herself to art when her internal troubles had given place to the settled rule of the Medici.

It appears then at first sight that the period immediately following upon a war is likely to be a period of artistic activity, and this is very generally true. The national unity and exhilaration produced by the Persian Wars set every Greek state building and rebuilding, if only out of gratitude to the gods for that great deliverance; the defeat of the Spanish Armada made the England of 1588 onwards a land steeped in literary art, though the first twenty-nine years of Elizabeth's reign are among the most barren in our language; the unspeakable joy at the mere sense of bodily security that made the empire of Augustus deify and adore its head, the bringer of peace, was accompanied by a literature that has given place to none, by a sculptural art that is still a standard of its own kind, and by an architecture of supreme importance. The emperor, who states in the simple language of the Ancyra monument—that great self-justification which reveals so much of its author, so much of its world—that he had restored eighty-two temples in 28 B.C. alone, besides the many he rebuilt during his reign; and if only the bare traces of most of these can be made out, coins and reliefs will help us to form an idea of the Rome that Augustus found of brick and left of marble.

Examples could be increased *ad infinitum*, and it looks as if we might conclude with the comfortable belief that war is bound to leave the victors, at least artistically speaking, a regenerated people—until we suddenly recollect the war of 1870. The Germans were certainly victorious, but, artistically speaking, are they regenerate? Is the art of their empire an honour to themselves or to the Europe of to-day, a gift worthy of the reverent acceptance of posterity? We can only say that it is neither, that it is boastful, insolent, formless, aiming at a theatrical success, self-conscious and blatant, a fungoid growth without roots in the past or promise for the future. Compare the art of Berlin with that of the Munich of the thirties, and see if victory necessarily brings artistic progress in its train! Set the art of Louis XIV. beside that of Clouet, and consider whether royal triumphs bring with them a better art than that of the troubled century before. Look at the English art that followed Waterloo, and one will wonder at the contrast with that of the reign of George III. proper, before England was ruled by the Prince Regent. In the region of the applied arts the eighteenth century in England scarcely produced anything bad; in architecture, till the Gothic revival at least, we find red brick houses in universal use, except in the case of a few mansions built in a classical style, and we still know no better domestic architecture; while a comparison of early nineteenth century churches with those of the latter half of the eighteenth, with almost the sole exception of St. Pancras, will soon show whether the age of plaster and concrete, though following on a supreme victory, can compare with its predecessor.

The truth would seem to be this: A victory which at once purifies and consolidates national feeling is followed by a fruitful peace, bringing forth a noble art to embody the nation's sense of pleasure in things orderly, beautiful, and serene. A victory which consolidates a people without purifying it results in a self-advertising art, restless and ill at ease, such an art as we see in the battle-pieces of Versailles and the streets of Berlin; and in such cases architecture, owing to its scale the most national and most expressive of the arts, will suffer most. The founder of a dynasty may employ great artists and architects, but unless he is an Augustus or a Lorenzo, content to be himself first citizen, not tyrant, glorying only in his country's past and future fame, his patronage will stifle all true art, his buildings be monuments of ignoble self-advertisement. The country and the ruler that make war in the spirit of Berlin or of Louis will gain no artistic glory when peace comes; those who devote themselves to the proclamation of their own successes instead of to setting their house in order in the light either of vehement or sober thankfulness—each is good, and the *afflavit Deus* of the Armada medallion is not nobler than the *non nobis, Domine*—court disaster, and misuse their greatest opportunity, the peace which comes of settled strife.

It is not for us to talk of peace when victory is still far distant, but it is well to realise that on our attitude as a nation now depend our hopes of a noble peace in the future, which shall give our country that loftier art, that graver and more national architecture, which now, after long peace misused, calls for a new birth, a grander Renaissance.



First, Second, and Eleventh Floors.

Continental and Commercial National Bank Building, Chicago.

Messrs. D. H. Burnham & Co. and Messrs. Graham, Burnham, & Co., Architects. (*See page* 169.)

(From the *Architectural Record*, New York.)

MEMORIAL TO SIR W. S. GILBERT.

A bronze medallion of the late Sir W. S. Gilbert was placed in position on the Embankment on Tuesday. It is the work of Sir George Frampton, R.A. Beneath the head of the playwright are two figures of Comedy and Tragedy. The medallion faces Charing-cross District Station, and is about 200 yds. from the bust of Gilbert's collaborator, Sir Arthur Sullivan, in the Embankment Gardens.

CORRESPONDENCE.

The Organisation of Architects in the National Interest.

SIR,—As you say, "It is only reasonable that we should employ the columns of this journal as a public platform from which to voice the growing demands of the architectural profession for organised employment in the national service," and I would suggest that the needs of other professions should be voiced by representative journals. Any action which may help to organise the professional classes is welcome at the present time.

Millions have been subscribed for the "relief of distress caused by the war," but because all the anticipations were wrong with regard to the class likely to suffer the fund does not seem to be used for the purpose for which it was raised, *i.e.*, "the relief of distress caused by the war," for it is quite as certain that the professional classes have not received the relief as it is certain that they have suffered most by the war. The Professional Classes War *Relief* Council is badly named to achieve its purpose; the best men will suffer much before they apply for *relief*. It is therefore much more likely that each profession will serve its members best by forming a Committee like the Architects' War Committee (and working in association with the P.C.W.R. Council), because men who will fight shy of a relief committee may approach a professional committee offering employment.

It is obvious that the Government could help in every direction by informing the Professional Classes War Relief Council of vacancies, for which that body could ask the appropriate committee to recommend candidates.

Having said so much, may I suggest that the Government Committee dealing with this question must in the first place inform itself as to the needs of the classes they have to deal with and revise the scale of remuneration? Very much larger grants should be made to the P.C.W.R. Council to deal with on their present lines, and also to those professional committees which are finding employment. The Government ought to refuse voluntary assistance while men who have worked hard to build up their positions, temporarily unable to maintain themselves, are able and willing to perform the duties required by Government Departments.

Rich volunteers can find plenty of work, if they are anxious to serve, which will not deprive others of a living.

The present practice of staffing the Ministry of Munitions by depleting the staffs of other departments and accepting the services of volunteers ought to be discontinued. In a few instances temporary paid assistance has been engaged, but the policy of overworking and underpaying the unfortunate assistant (driven by a national emergency to accept anything he can get) is not either economical or efficient.

For the manufacturer and the merchant there is a standard of fair profit; for the manual labourer there is a standard of fair wage; but for the brain worker (not already in Government service) there does not appear to be any standard of fairness at all; the pay is the lowest necessity will drive a man to accept. This is allowed because the professional classes cannot organise like a commercial trust or a trade union. But is it wise in the interest of the State?

Now you, Sir, have provided a platform, I trust that not only the architects, but the members of other professions, will do something to rouse the Government to a sense of responsibility to protect the brains as well as the finances and the muscles of the country.

You have suggested some things which might be done to help architects to keep their practices together, and invite further suggestions, and I beg to submit the following proposals for consideration. There is a good deal which ought to be done in preparing the way for the future of the building trade, and I suggest that architects would make the best investigators.

There are many other needs for which architects and other professional men might be employed.

Inspectors could be multiplied almost indefinitely with advantage for the following purposes, and their poor salaries saved many times over:—(1) Factories; (2) sanitary; (3) schools; (4) child labour; (5) huts; (6) canteen (provision in works); (7) stores (food, etc.); (8) works in progress (for certificates, payment on account); (9) buildings in course of erection; (10) machinery and plant; (11) ammunition; (12) stores (outfit).

Investigators should be making inquiries in every trade and industry throughout the country to pave the way for the re-entry into civil life of our volunteer army, and all the information codified by the Labour Exchanges. Many professional men might be employed in investigating the probable housing requirements of the immediate future after the war. Others could make useful inquiries in connection with the export trade of Germany which might be captured by this country.

Trained fighting men are spending their time in giving orders for goods and material, checking inventories, settling accounts, etc., things they do not understand; while men trained to deal in these matters are idle, and men willing to fight are waiting to be trained.

Young men anxious to fight are doing work which would be better done by men too old to fight, while the experience of the older men is not used.

If the War Office would appoint a few intelligent superior officers to make a tour of our army quarters they would report the misuse of thousands of men by the employment of those fit for military service on purely civil work, and of young men on work old men could do more effectively.

It is no exaggeration to say that there are thousands of men willing to serve who are prevented by inadequate pay (a professional man cannot keep his family on the separation allowance of a private). Make use of his expert knowledge and give him a commission with the rank of the man he releases, and the army will gain fighting officers, while military men and civilians will be doing the work for which they have been trained, which means efficiency.

JOHN E. YERBURY.

August 22.

SIR,—In answer to your request in your recent article in the *Builder* I send you the following suggestions:—

The men of the architectural profession might be divided into two divisions: Men who have had a practical outdoor experience in supervision of works and even as clerk of works. Men who have been entirely engaged in office work, drawings and details, etc.

Supervision and setting out of proposed buildings for camps, hospitals, internment camps, and dwellings utilised for enemy prisoners and enemy officer prisoners during progress and for the duration of war.

Superintendence and inspectors of sanitary schemes and details for the camps, etc.

Also the profession should be asked to assist the Royal Engineers department in the preparation of the drawings required for all these works. Also the men might be used for travelling about and reporting progress, quality of materials being used, difficulties of obtaining materials, labour, transport, etc.

Above all, the one strong point should be urged that middle-aged men from fifty to sixty years should be utilised in this work.

Personally, I saw at a camp last week in the Midlands youths from twenty to thirty years at work outside and in the offices; they should be in the army; the ineligible only should be employed on such work. There are hundreds ready and willing out of employment through the war.

A. E. S.

GENERAL NEWS.

Professional Announcement.

Mr. E. Brantwood Maufe, B.A.Oxon., A.R.I.B.A., has moved to new offices at 3, Raymond-buildings, Gray's Inn, W.C. His telephone number is Central 8467.

Royal Sanitary Institute.

A course of lectures for sanitary officers has been arranged by the Royal Sanitary Institute, commencing on September 20. The course comprises, in addition to lectures, practical demonstrations in the Museum of Sanitary Appliances, visits to public works and other places of sanitary interest, and includes the use of a reference library, lending library, and reading-room. The lectures are followed by the standard examinations of the Institute, which are recognised in all parts of the British Empire. Full particulars can be obtained at the offices of the Institute, No. 90, Buckingham Palace-road, S.W.

Victoria and Albert Museum.

The Serbian Government has presented to the Victoria and Albert Museum and to the British public the marble torso of Strahinic Ban, by Ivan Mestrovic, in proof of their appreciation of the interest shown in the recent exhibition of his work. The torso is on view in the Central Hall of the Museum; the remainder of the exhibition is now closed.

Albert Hall Fair: Christmas, 1915.

The Professional Classes War Relief Council have undertaken to organise a Christmas fair at the Albert Hall for the purpose of raising funds for the relief work of the Council. The Organising Committee will be assisted by Committees representing the different professions, and a Committee—known as the Architects' Committee—has been formed to represent the professions of architecture and surveying. This Committee is under the chairmanship of Mr. Ernest Newton, A.R.A. The Architects' Committee is anxious to make the undertaking widely known to architects and surveyors and to stimulate the collection of the 5s. gifts which will be sold at the fair for the benefit of the Professional Classes War Relief Fund.

BOOKS.

The Story of Warsaw. By ROTHAY REYNOLDS, M.A. (London: Messrs. Hutchinson & Co.)

THIS is an interesting little book, dealing with a fascinating subject which is naturally much in the public mind at present. As the later capital of the Polish kingdom, and the administrative centre of Russian Poland, Warsaw possesses great past and present importance. Situated almost midway in the continent on the main lines East and West, Warsaw is geographically well placed for a centre of commerce and trade, and its rapidly growing population, which now exceeds 900,000, and gives it the rank of the third largest city in the Russian Empire, renders it a great commercial centre in a poor country. Mr. Reynolds lays stress on the fact that in Russia one feels oneself in the East, whereas Poland, despite its Slavonic people, belongs to the West, a distinction emphasised by the connection of its civilisation with Rome and not with Byzantium, so that it passed through the same phases of thought and was distinguished by the same architectural traditions as Western Europe. Emphasis is laid on the present union between Poles and Russians as well as the past traditions of political tyranny associated with former Russian traditions, now happily a thing of the past.

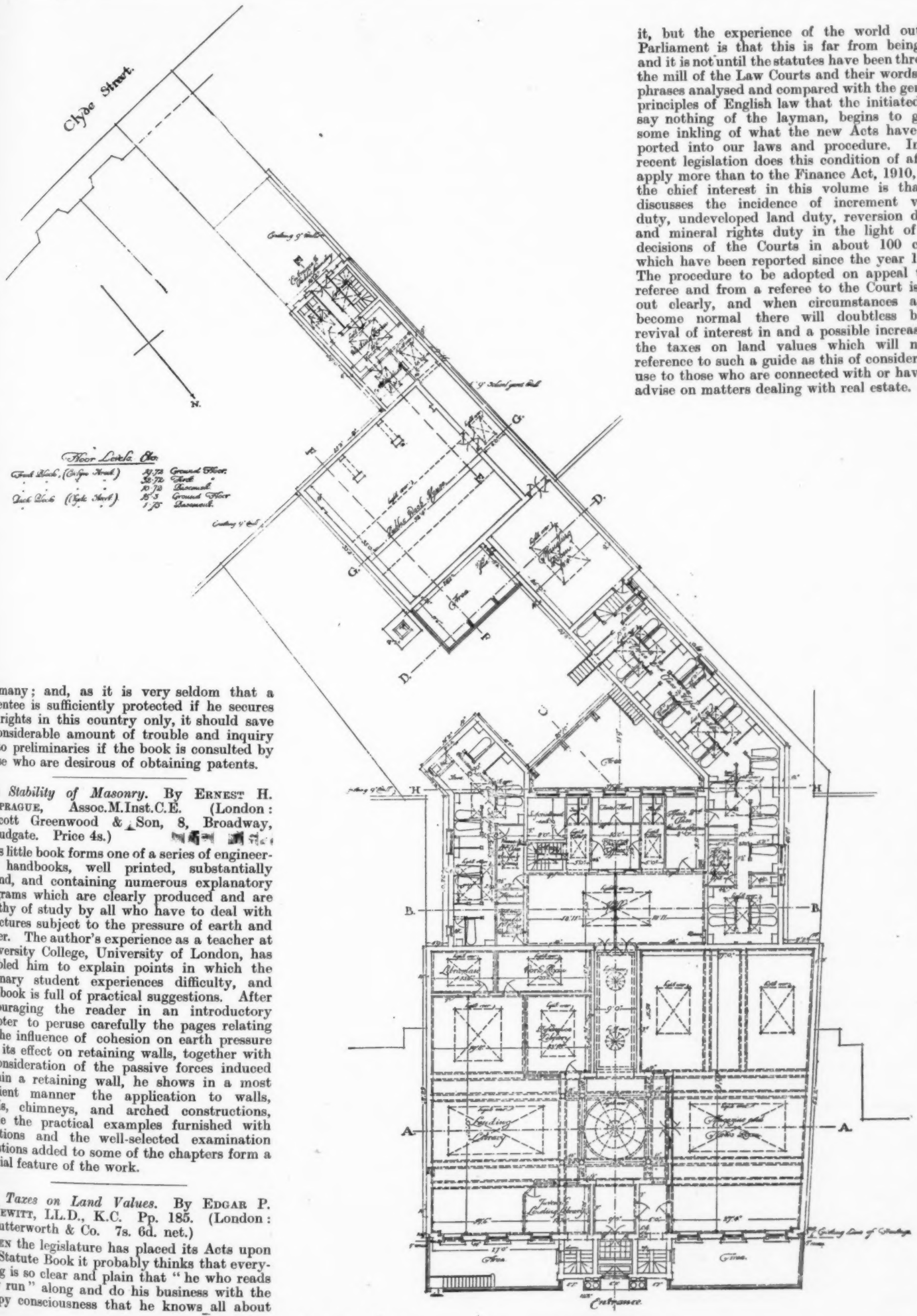
The sixty-eight photographic illustrations which the book contains are well chosen but badly reproduced—a fault which is becoming too common in recent book production. A third the number of illustrations produced with greater clearness and definition would be preferred by most readers. But they give a good idea of the architectural wealth of an unusually interesting city, especially in works of the Renaissance period and those of the present day.

Among the older work shown we may mention the Kerlicki Palace, a picturesque quadrangular group, and the Lazcenki Palace, a fine Renaissance mass built among an exquisite setting of water and trees, the former Treasury of the Kingdom of Poland, and an interesting circular building, the Augsburg Evangelical Church, built in the reign of John Sobieski, while the National Theatre, Municipal Circus, and Polytechnic Institute are buildings which would do credit to any large modern city. We hope in the years to come that Poland may once more find happiness and prosperity in a new era of independence under the sceptre of the Russian Tsar, who will then deserve the title of Liberator even more than his grandfather, Alexander II.

Handbook of Patent Law of All Countries. By W. P. THOMPSON. Pp. 242; 16th edition. (London: Stevens & Sons, Ltd.)

THIS book with its compact and condensed information does not profess to be a manual of instruction in patent law, but it does set out the essential points which are necessary to be observed in applying for patent rights in every country of the civilised world, and

DEPTFORD BATHS AND LIBRARY.



Public Baths and Library, North Ward, Deptford.

Mr. A. W. S. Cross, M.A., F.R.I.B.A., Architect. (*See page* 174.)

Germany; and, as it is very seldom that a patentee is sufficiently protected if he secures his rights in this country only, it should save a considerable amount of trouble and inquiry as to preliminaries if the book is consulted by those who are desirous of obtaining patents.

The Stability of Masonry. By ERNEST H. SPRAGUE, Assoc.M.Inst.C.E. (London: Scott Greenwood & Son, 8, Broadway, Ludgate. Price 4s.)

THIS little book forms one of a series of engineering handbooks, well printed, substantially bound, and containing numerous explanatory diagrams which are clearly produced and are worthy of study by all who have to deal with structures subject to the pressure of earth and water. The author's experience as a teacher at University College, University of London, has enabled him to explain points in which the ordinary student experiences difficulty, and the book is full of practical suggestions. After encouraging the reader in an introductory chapter to peruse carefully the pages relating to the influence of cohesion on earth pressure and its effect on retaining walls, together with a consideration of the passive forces induced within a retaining wall, he shows in a most efficient manner the application to walls, dams, chimneys, and arched constructions, while the practical examples furnished with solutions and the well-selected examination questions added to some of the chapters form a special feature of the work.

The Taxes on Land Values. By EDGAR P. HEWITT, LL.D., K.C. Pp. 185. (London: Butterworth & Co. 7s. 6d. net.)

WHEN the legislature has placed its Acts upon the Statute Book it probably thinks that everything is so clear and plain that "he who reads may run" along and do his business with the happy consciousness that he knows all about it, but the experience of the world outside Parliament is that this is far from being so, and it is not until the statutes have been through the mill of the Law Courts and their words and phrases analysed and compared with the general principles of English law that the initiated, to say nothing of the layman, begins to glean some inkling of what the new Acts have imported into our laws and procedure. In no recent legislation does this condition of affairs apply more than to the Finance Act, 1910, and the chief interest in this volume is that it discusses the incidence of increment value duty, undeveloped land duty, reversion duty, and mineral rights duty in the light of the decisions of the Courts in about 100 cases which have been reported since the year 1910. The procedure to be adopted on appeal to a referee and from a referee to the Court is set out clearly, and when circumstances again become normal there will doubtless be a revival of interest in and a possible increase of the taxes on land values which will make reference to such a guide as this of considerable use to those who are connected with or have to advise on matters dealing with real estate.

Leading Contents.

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ILLUSTRATIONS.

Additions to Lincoln County Assembly Rooms.

THE old suite of rooms to which these additions are attached is an excellent example of good Georgian work, the ballroom, built about 1746, being of particularly fine proportions, with pilasters, cornice, and enriched ceiling treated with bold but refined detail. From its springiness and excellent dancing qualities the floor of this old ballroom was traditionally reported to be hung on chains, but a crawl of investigation showed that the springiness was entirely due to the elasticity of the timber girders and binders of a double-framed floor obviously designed and constructed to give that life which single joisting on sleeper walls would have lacked. Supper and cardrooms with kitchen beneath were added in 1825 in the traditional Georgian manner, and with so little alterations in style, though eighty years had elapsed since the building of the ballroom, that were there not documentary evidence to the contrary the whole of the old building might pardonably be attributed to one date. The wall between these two rooms has now been removed, in order to form a supper-room large enough to accommodate an assembly at one sitting.

Above the front portion of the recent additions (which are indicated in solid black on the plan) is a caretaker's flat, and beneath it a heating-chamber, otherwise the plan and photographs sufficiently explain themselves. A low-pressure hot-water heating apparatus serving the whole suite of rooms was installed to aid the open fireplaces, which must always have been found inefficient, for even our hardy forefathers could hardly have felt that a room 80 ft. by 33 ft. was adequately warmed by one open fire. The enriched plaster ceilings of the lounge and corridor were carried out by Mr. A. A. Lazzerini, of Nottingham; the steel and glass elliptical dome light by Messrs. J. Hall & Sons, of London; and the general building works by Messrs. Wm. Wright & Son, of Lincoln. The architects were Messrs. W. W. Watkins & Son, of Lincoln, and the whole cost of the work was borne by Mr. Alfred Shuttleworth, one of the Trustees.

Some American Work.

THESE illustrations of the work of Messrs. D. H. Burnham & Co. are taken from the *Architectural Record* of New York, and are given in connection with an article on p. 169 of our present issue.

Deptford Free Library and Public Baths.

AS will be seen on reference to the ground floor plan, the central entrance, from Evelyn-street, serves as the principal public approach both to the library, which occupies the front portion of the site, and to the public baths and washhouses which are arranged in the rear of the library, and have a secondary entrance from Clyde Street.

The library accommodation, placed on the ground floor of the building, includes a spacious lending library planned on the open access system, and large magazine and news rooms. Additional smaller rooms are provided for use as a juveniles' lending library, a reference library, and as offices and workrooms for the librarian and his staff. Store and file rooms, mess-rooms, and other administrative departments are arranged in the basement floor of the front building, upon the first floor of which are the caretaker's residential quarters.

The accommodation provided in the public baths and washhouses includes a large top-lighted washhouse fitted with washing compartments, drying horses, hydro-extractors, etc., adjoining which are the mangling-room, the public waiting-room, the matron's office, and the numerous slipper or private baths arranged for the use of bathers of either sex and class. Externally the front walls to the two streets will be faced with brindled bricks relieved with Laurence's red facing bricks and Portland stone, and the roofs finished with green slates. Mr. A. W. S. Cross is the architect.

Finchley Public Baths.

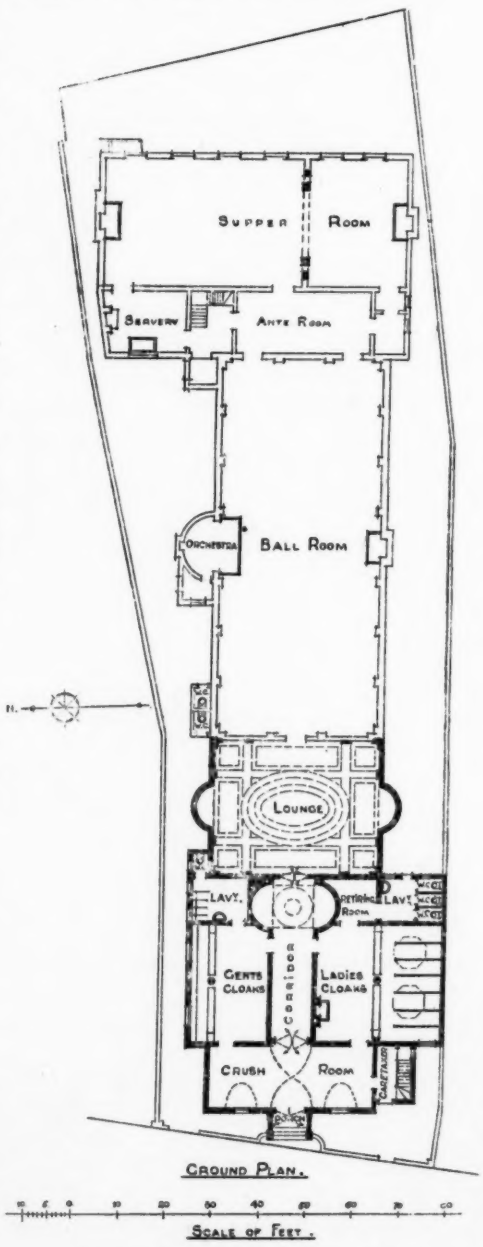
WE give a reproduction of the architect's ½-in. scale working drawing for the front of this building, a general description of which appeared in our issue of July 16, when we published an account of the opening ceremony. Messrs. Sharp Brothers, of Finchley, were the general contractors; Mr. O'Dell the clerk of works, and Mr. A. W. S. Cross the architect.

BOOKS RECEIVED.

THE A.B.C. OF HERALDRY. By Guy Cadogan Rothery. (London: Stanley Paul & Co. 5s. net.)

STRUCTURAL DESIGN. Vol. II.—Design of Simple Structures. By Horace R. Thayer. (London: Constable & Co., Ltd. 16s. net.)

LINCOLN COUNTY ASSEMBLY ROOMS.



Messrs. W. Watkins & Son, Architects.

OBITUARY.

Mr. J. M'Kissack.

Mr. John M'Kissack, of the firm of Messrs. John M'Kissack & Son, architects, 68, West Regent-street, Glasgow, died a few days ago at his residence, 9, St. Andrew's-drive, Pollokshields. Educated at St. Enoch's School, he started business half a century ago, when Glasgow was in the midst of a great building development, and he was responsible for many of the buildings erected in the city during that period. He was particularly successful as a designer of churches, among those which he planned being Pollokshields West U.F. Church, St. John's Wesleyan, Sauchiehall-street; Girvan Parish Church, Strathbungo Parish Church, London-road U.F. Church, Paisley-road U.F. Church, Whiteinch U.F. Church, Queen's Park Baptist Church, Brockley Presbyterian Church, London; Wynd U.F. Church, Finart U.F. Church, Greenock; Clydebank West U.F. Church, and others at Bo'ness, Galashiels, Grangemouth, Tarbert, Loch Fyne; Shettleston, and Fairlie. The plans for some important public buildings were prepared by him, these including the M'Kechnie Institute, Girvan; Dunoon and District Cottage Hospital, Sheriff and Police Buildings, Dunoon; Strathclyde Public School, Glasgow; additions to Eastbank and Wellshot Schools, Shettleston; and the headquarters of the 4th V.B.S.R. (now the 8th S.R.).

Mr. J. Frew.

The death took place in Airdrie, on August 24, of Mr. John Frew, retired contractor, father of the Provost of the burgh. Mr. Frew, who was eighty-five years of age, was one of the oldest and best-known contractors in the district, and carried out many public and other important works entrusted to his firm.

FIFTY YEARS AGO.

The Haymarket Theatre.

MR. WALTER MONTGOMERY'S short management is proving, we are glad to hear, successful in a pecuniary point of view, while it has served to afford enjoyment to playgoers at a usually dull period of the year. He has placed before them several standard plays very well acted. The new tragedy, "Fra Angelo," produced on Wednesday evening, proved to be better adapted for the Surrey than the Haymarket, though manifesting ability on the part of a young author.

Covent Garden Theatre.

MLLE. CARLOTTA PATTI made her first appearance this season at Mr. Mellon's concerts last Monday. Her reception showed how great a favourite she is, and her singing how well she deserves to be so. The same evening was also to be noted by the production of a new waltz, "The May Waltz," composed by Mr. Mellon himself expressly for these evenings. It was well received. When hundreds of listeners will stand for three hours closely packed, hours which cannot be the three coolest out of the twenty-four, there must be something good to keep them in a quiet and agreeable state of mind. Such is the case at Covent Garden Theatre every evening.

[*** We give the above extracts from the *Builder* of September 2, 1865.]

LIEUT. J. L. TANN.

Mr. J. L. Tann, B.Sc., Secretary to Messrs. John Tann, Ltd., safe and strong-room engineers, 117, Newgate-street, is the son of Mr. Edward Tann, managing director of the firm. It will be of interest to mention that Mr. Tann, who obtained his London University science degree with first-class honours, joined His Majesty's forces almost immediately after the outbreak of war as a first-lieutenant. After studying at Woolwich, he was made Inspector of Ordnance Machinery, and is now with the Expeditionary Force in France, controlling a travelling workshop attached to one of the army corps. Mr. Tann, who is well known as an athlete, won the amateur sculling championship of England prior to the war.

LEGAL SECTION.

NOTES ON CURRENT CASES.

The China Clay Corporation *v.* Worth and Another:

Professional Negligence.

THIS case, which was reported in the *Builder* of May 21 and 28 last, whereby an engineer was successfully proceeded against for negligence in not properly supervising the work of a contractor, is illustrative of the serious responsibility which attaches to professional men who for reward undertake work for their clients. In this instance a china clay company wished to lay a pipe line from their mine on Dartmoor to convey the china clay in solution to their works near the railway at Ivybridge, Devon. They accordingly instructed an engineer, who prepared plans and specifications, and a tender was accepted for carrying out the work, which consisted of two lines of 9-in. stoneware socket pipes jointed with cement, for a length of about eight miles. Manholes were provided at intervals, but apparently the pipe line was not laid in straight lengths from manhole to manhole, but followed to some extent the contour of the ground. The pipes were "selected seconds," and were, together with the cement used for the joints, supplied by the Corporation. When the pipe lines had been completed, and before any china clay had been passed through them, large volumes of flood water were found to flow through the pipes, and on tests being made by the Corporation, they came to the conclusion that the pipes had been improperly laid and jointed. They called upon the contractor to remedy the defects, and upon his refusal they brought the action against him for damages and against the engineer for not properly supervising the work. After hearing the evidence, Mr. Justice Scrutton, who tried the case, found that the pipe line had not been constructed water-tight, and awarded damages against the contractor for the cost of repairing the pipe line and also loss of profit to the Corporation for the time during which the work was incomplete. He also found that the engineer had not given the amount of supervision, particularly on the question of testing, that he should have done.

The answer of the engineer to the claim against him was that there was a resident engineer and also a clerk of works upon the works, and that no reports were made by them to him which made him suspect that the works were not being properly carried out, and that on his visits, which took place two or three times a month, he saw nothing which led him to suppose that every one was not doing his duty.

It will be seen therefore that this case raises the important point as to the extent to which an architect or engineer must himself interfere and personally inspect works for which he is responsible, although there is upon the work a resident engineer, inspector, or clerk of the works.

The relative duties of the responsible architect and his assistants or subordinates was dealt with in the case of Leicester Guardians *v.* Trollope [1911] 75 J. P. 197, where it was alleged that the architect had allowed the specifications to be departed from in connection with the laying of a considerable area of ground floors laid upon joists embedded in concrete, and that the dry rot which supervened was the result of negligence in supervision. The architect admitted that the specifications had not been adhered to, but stated that the variation had been made by the clerk of the works without his knowledge or consent, and that, as the plaintiffs were responsible for engaging a clerk of the works who was not a fit person, they and not the defendant were liable for the variations and bad workmanship. The plaintiffs relied on a clause in the contract which defined the position of the clerk of the works to be that of inspector and assistant of the architect, and thereby sought to make the architect responsible for the acts of his assistant; but the defendant stated that he had carried out his duties of supervision as agreed with the plaintiffs, and he had had no reason to suspect the clerk of works of fraud during the progress of the works. Mr. Justice Channell said: "The position was that if a detail had been omitted it would have been the fault of the clerk of the works; but if the system was wrong it was the architect's fault. From the facts it appeared that four years after the buildings were finished dry rot broke out under the floors. Upon investigation made, it was discovered that the design which was intended to prevent dry rot occurring had been departed from in certain material respects. For the departure from the design somebody was to blame; and it is clear to me that the builders had no authority to depart from the design. They were therefore to blame, but there was a difficulty in the way of bringing an action against them, because they had got the architect's certificate of completion, and the period of nine months for maintenance had elapsed before the dry rot broke out. The defence is that this dry rot was the fault of the clerk of the works. That is so in one sense. It clearly was the duty of the clerk of the works to attend to the laying of concrete in accordance with the design, but does that relieve the defendant? To my mind there is little difficulty in deciding the point. The position of the architect and of the clerk of the works was made quite clear. The details were to be supervised by the clerk of the works. The architect could not be at the works all the time, and it was for that reason that the clerk of the works was employed to protect the building owner. But what is a matter of detail? The laying of this concrete was, in my view, a very important matter in relation to the building. It requires no expert to tell one that when a floor is put down on earth there must be protection against damp. Here the plan devised was not uncommon, and was an essential part of the design. The architect admits that he took no steps to find out whether it was carried out or whether it was not. A large area had to be covered. In some parts the concrete as laid was fairly good, but over the greater part it was all rotten. If the architect had taken steps to see that the first block was all right, and had then told the clerk of the works that the work in the others was to be carried out in the same way, I would have been inclined to hold that the architect had done his duty; but in fact he did nothing to see that the design was complied with. In my view this was not a matter of detail which could be left to the clerk of the works. It may have been natural to leave it to him, but in my judgment it was an omission to do that which it was his duty to do. It is said that the clerk of the works is the servant of the plaintiffs, and that the defendant is excused, and that if a party to a contract, by his servant, prevents the other party from carrying it out, that is an answer to an action for breach. It is clear that for certain purposes the clerk of the works was the servant of the plaintiffs. But even assuming that is so, and that this trouble was due to the fraud of the clerk of the works, the plaintiffs cannot be held liable unless it be shown that the fraud was perpetrated in their interest and not in the interest of the clerk of works himself. I am sorry to have to find that the defendant is under a serious liability in a matter for which, to a certain extent, he is not altogether responsible."

It will be noticed, however, that the principle laid down by Mr. Justice Channell, that the architect is responsible for correct design, or proper mode of construction, and the clerk of works for carrying this out in detail, is one which is very difficult to apply, and the judge appears to have departed from his own rule by stating that the architect in addition to specifying a proper concrete floor should have seen that at least a portion of it was carried out in accordance with the specification.

In addition to the responsibility for supervision of the work after a contract has been entered into, the Courts have held that in the preliminary work of advising clients a professional man is also liable to an action for negligence. In the case of Moneypenny *v.* Hartland (1824) I. C. & P. 352, the Court nonsuited the plaintiff in an action to recover fees as architect and engineer in connection with plans and specifications for the Mythe Bridge across the Severn, on the ground that though the plaintiff made an estimate for the bridge, yet he did not bore or otherwise examine the soil of the foundation, which was afterwards discovered to be bad, which caused an additional expense to the company of upwards of £1,600. In answer to this it was shown that when the Committee engaged the plaintiff as their surveyor, they told him that a person, whom they named, would assist him with information; and that person told the plantiff that the soil was good, but he did not say that he ever tried it in any way.

Chief Justice Abbott, in delivering judgment, said that "If a surveyor who makes an estimate sues those who employ him for the value of his services, and it appears that he was so negligent that he did not inform himself, by boring or otherwise, of the nature of the soil of his foundation, and it turned out to be bad, this goes to his right of action; and if he went upon the information of others, which now turns out to be false, or insufficient, he must take the consequences; for every person employed as a surveyor must use due diligence. Whether the plaintiff has used due diligence or not is a question for the jury, and if the plaintiff went on the statement of others, that is no excuse, as it was his duty to ascertain how the fact was, or to report to his employers that he only went on the information of others, or that the fact was uncertain."

Mr. Justice Bayley said that if from plaintiff's negligence he led his employers into a great expense, the whole of his work was worth nothing; he cannot recover for a particular item, as a journey, as it still was a part of an entire claim, relative to this bridge.

Upon a retrial, however, the plaintiff was awarded £750 by the jury upon the ground that part of the work which he had done had been adopted by Mr. Telford, who succeeded him. Chief Justice Best then laid down the rule that, supposing negligence or want of skill to be sufficiently made out, unless that negligence or want of skill has been to an extent that has rendered the work useless to the defendants, they must pay him, and seek their remedy in a cross-action. He said, "It appears that Mr. Telford adopted a part of the plaintiff's plan; and up to that extent the defendants have been benefited. I grant that it is not a trifling deviation from an estimate that is to prevent a party's recovering. But if a surveyor delivers in an estimate greatly below the sum at which a work can be done, and thereby induces a private person to undertake what he would not otherwise do, then I think he is not entitled to recover."

There is, of course, no such liability for negligence unless there is a duty existing on the part of the professional man which the law recognises. There is, however, on the part of everyone who holds himself out to do work for reward an implied warranty that he is capable of carrying out the work which he undertakes to do, and consequently any dereliction of duty when proven renders him liable either to dismissal or to an action for damages.

In the case of Harmer *v.* Cornelius (1858) 28 L. J. C. P. 85, the defendant advertised for two scene-painters, and the plaintiff and another applied for the situations and were engaged, but the defendant finding the plaintiff incompetent dismissed him, whereupon the plaintiff brought an action to recover damages for wrongful dismissal. The jury found that the plaintiff was incompetent for the service for which he was engaged, but that he did not fraudulently represent himself to be competent. In delivering the judgment of the Court on the appeal, Mr. Justice Willes said: "When a skilled labourer, artisan, or artist is employed there is, on his part, an implied warranty that he is of skill reasonably competent to the task he undertakes. Thus, if an apothecary, a watchmaker, an attorney be employed for reward, they each impliedly undertake to possess and exercise reasonable skill in their several arts. The public profession of an art is a representation and undertaking to all the world that the professor possesses the requisite ability and skill. An express promise or express representation in the particular

case is not necessary. It may be, that if there is no general and no particular representation of ability and skill, the workman undertakes no responsibility. If a gentleman, for example, should employ a man that is known to have never done anything but sweep a crossing to clean or mend his watch, the employer probably would be held to have incurred all risk himself. But in the case under consideration the correspondence shows, in addition to the implied representation, an express and particular representation by the plaintiff that he did possess the requisite skill, and since a master is not bound to keep on a servant who had refused to perform his duty, it appears to us that there is no material difference between a servant who will not and a servant who cannot perform the duty for which he was hired."

The implied warranty of competency is also shown in the case of Jenkins *v.* Betham (1855) 24 L. J. C. P. 94. The plaintiff was a rector who, on entering upon a living, agreed with the executrix of the late incumbent that the dilapidations should be valued as between them by the defendant for the plaintiff, and a valuer on behalf of the executrix of the late incumbent. The plaintiff alleged that through the defendant's negligence the amount of dilapidations was settled at a less sum than they ought to have been settled at, whereby the plaintiff was obliged to accept from the executrix a smaller sum than he ought to have received.

The evidence showed that the valuation had been made as between incoming and out-going tenant, instead of as between incoming and out-going incumbent.

It was held that, although the defendant could not be expected to supply minute and accurate knowledge of the law, he ought to have known the broad distinction between the case of an incoming and out-going tenant and the case of an incoming and out-going incumbent, and that his ignorance in that respect was a breach of the undertaking that he was competent. Chief Justice Jervis in delivering the judgment of the Court, said: "The cause of action is that the defendants, by holding themselves out as valuers and surveyors of ecclesiastical property, represented themselves as understanding the subject and qualified to act in the business in which they professed to act, and this induced the plaintiff to retain and employ them. Their ignorance of the subject and incompetency to act in the business were in part shown by their failure upon the valuation which subsequently took place, but that was not the whole cause of action. The cause of action was their undertaking that they were competent, and the breach of that undertaking. If the defendants, in consideration of the plaintiff's retainer, had entered into a written engagement that they were qualified to act, and understood the subject, there is no rule of law which would have protected them from liability for a loss caused by a breach of that engagement. The contract which, in the case put, would be expressed, may in this case be implied from the circumstances."

BRITISH ARCHÆOLOGICAL ASSOCIATION:

CONGRESS IN THE ISLE OF WIGHT.

In consequence of the war most of the excursions and congresses of archæological societies throughout the country for this year have been abandoned. It seemed to the authorities almost impossible to hold these gatherings and quietly to pursue the study of antiquities when the thoughts and minds of the nation are concentrated upon the awful issues of this international warfare; when many families are in deep mourning for heroes dead, and England and her Allies have a long way to traverse before victory is assured. However, some members of the Council of the British Archæological Association were of opinion that it would be well to distract their minds from present anxieties and to endeavour to hold a brief and informal congress, and the Isle of Wight offered special attractions. A member of the Hampshire Field Club and of the Council of this Association, Mr. A. W. Oke, F.S.A., kindly undertook to make all the arrangements, and under the genial presidency of Mr. C. E. Keyser, F.S.A., the Congress met on August 18, the session lasting from Wednesday evening to Saturday. Mr. G. W. Colenutt, F.G.S., was associated with Mr. Oke as Hon. Local Secretary; the Royal Pier Hotel at Ryde was chosen as the headquarters of the Congress, which was quite of an informal character, and about thirty members were present, including the Rev. P. H. Ditchfield, F.S.A., who edits the *Journal* of the Association, Colonel and Mrs. Keyser, Messrs. A. Radford, R. C. Lott, J. Hauntenville-Cope, E. Regnoll Taylor, and on Thursday the numbers were augmented by a large contingent of the Hampshire Field Club, under the leadership of the Hon. Secretary, Mr. W. Dale, F.S.A. A strong reception committee was formed, composed of leading antiquaries in the island, and everything was arranged for the comfort and convenience of their guests, and some of the principal archæological treasures of the beautiful Vectis Isle were inspected and examined. The weather during the week was all that could be desired. Except for the presence of many khaki-clad soldiers and the stringency with which visitors were examined with regard to their nationality, the island never looked more peaceful or more beautiful than it did in the Congress week, and those who were able to attend the gathering will long retain pleasant recollections of their visit.

The British Archæological Association may well be described as venerable, as this was its seventy-second congress. Its last visit to the Isle of Wight occurred as long ago as 1855, and it is curious to note that that date was the second year of the Crimean War, while in 1915 we have entered upon the second year of a far greater and more momentous struggle.

The proceedings opened on Wednesday evening with a reception kindly given by the Mayor of Ryde, Councillor John J. Barton, and held at the Royal Pier Hotel. Several of the leading inhabitants of the town were invited, including Professor and the Hon. Mrs. Vernon Harcourt. The band of the Royal Marine Artillery played some excellent music and light refreshments were served. The Mayor, in a pleasant speech, welcomed the Association in the name of the town of Ryde, and the President replied, thanking the Mayor for his hospitable reception and kind words. He said that there was a strong feeling among some of the members of the Council against having a congress this year, but that he was one of those hopeful people who did not think it was wise to be unduly depressed and to give up every form of harmless recreation because they were engaged in this terrible conflict with Germany. During the seventy-two years of the Association's existence their avowed object had been not only to see things which interested themselves, but to encourage the custodians to appreciate their worth. Although there was more care taken of antiquarian objects than there used to be, they occasionally heard of cases of proposed vandalism, and then they endeavoured to protest and to prevent such acts of wanton destruction from being carried out.

On Thursday morning the party proceeded by motor to Carisbrooke, through Wootton, with its charming bridge over the end of the creek, past Newport until the walls and towers of the famous Castle appeared in sight. It was Keats who said, "I do not think I shall ever see a ruin to surpass Carisbrooke Castle." It has a long and interesting history, and the chief event in its annals is the part that it played in the imprisonment and attempted escape of Charles I. and of his two children, Prince Henry and the Princess Elizabeth. Mr. Percy Stone, F.S.A., F.R.I.B.A., who is the principal authority on all the architectural works in the island, and who has produced a monumental volume with elaborate drawings, kindly acted as cicerone, and gave a valuable address on the history of the castle, each stone of which he seems to be familiar with. He said that the castle occupied a position of great natural strength upon a spur jutting out into the valley wherein the town lies. British earthworks existed there which formerly covered 7 acres, and were oblong in shape. Some part of these still surrounded the bowling green. In the eleventh century, when the castle was erected, these earthworks were cut into, and then the usual wooden keep and mound were formed after the usual type of early Norman stronghold. William Fitz Osborn, Earl of Hereford, a kinsman of the conqueror, was the first Norman lord. To him has been attributed the erection of the *aula regalis*, in which William the Conqueror arrested his half-brother Odo on a charge of conspiracy. But this was probably built of wood, and the first stone building was the work of Baldwin de Redvers, whose family were lords of the island and held the castle for nearly 200 years. This powerful lord, who espoused the cause of the Empress Maud, in the "Acts of King Stephen" is recorded to have possessed "a stately castle built of hewn stone and very strongly fortified, from which it was his design to weaken the king's resources by collecting a strong piratical fleet, and taking advantage of every wind to intercept the merchant ships that plied between England and Normandy and inflict losses on both countries by every means in his power." King Stephen, however, heard of his design, and sent his ships and an army to attack the stronghold, but an unusual drought dried the springs and caused the supply of water for the garrison to fail. So Baldwin capitulated and his estates were confiscated. However, these were restored to him, and it is thought that he made the deep well in the castle in order to prevent a similar calamity. Mr. Percy Stone proceeded to describe the gradual building of the fortress and the successive builders, amongst whom were the famous Isabel de Fortibus, William de Vernon, William Montague, Earl of Salisbury, who was lord from 1385–1397, Sir George Carey, the first governor in the reign of Queen Elizabeth, and several others. Temporary additional defences were raised when the Armada threatened. It was the prison of King Charles I., who tried to escape, but could not get his body through the bar-protected window of his chamber, and of his children, Henry and Elizabeth. The latter died in the castle, and Queen Victoria placed a fine monument in Newport Church in memory of the distressed Princess. The last remodelling of the gatehouse took place under the direction of Mr. Stone. The castle is the official residence of the Governor of the island, which office is now held by Princess Henry of Battenberg.

A perambulation of the walls disclosed some very interesting particulars. The Woodville Towers that flank the entrance were erected by Sir Anthony Woodville in 1467, and the admirers of old woodwork noted the contemporary gates. The rampart walk was duly traversed, and the old jousting ground within the ancient British earthworks noted, which was converted into a bowling-green for the use of his distinguished prisoner, Charles, by Colonel Hammond, the governor. Perhaps the most interesting part of the castle is the keep, reached by a long flight of uneven steps. But want of space prevents us from giving a full description of the buildings of the fortress or even to mention the famous well whence the water is drawn up by the aid of a donkey.

Before leaving the castle a visit was paid to the lately founded museum, under the guidance of its new able curator, Mr. F. Morey, F.L.S., who is rearranging its contents in chronological order. There is a small collection of prehistoric flints and objects of the bronze and iron ages, some good Saxon remains from the Pictish cemetery on Chessell Down, an iron axe and bone comb from the top of a barrow on Arreton Down, armour from the Tower of London, and personal relics of Charles I.—his Bible and Prayer Book, night-cap ring—and also of Princess Elizabeth, tokens and coins, including some siege-pieces.

(To be continued.)

FOREIGN AND COLONIAL.

Building Material, Canada.

The Imperial Trade Correspondent at Toronto (Mr. F. W. Field) reports that a large company operating a departmental store in that city has decided to build a warehouse at Regina, Saskatchewan, at an estimated cost of 150,000 dollars (about £30,800). The Imperial Trade Correspondent also reports that a company operating large departmental stores at Toronto and Winnipeg has decided to erect a factory at Hamilton, Ontario. While it is too late for United Kingdom firms to tender for building material, it is suggested that the company may be interested to have particulars from United Kingdom manufacturers of machinery and plant and general factory supplies. The names of the companies referred to may be obtained by United Kingdom firms desirous of supplying plant, etc., on application to the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E.C.

THE BUILDING TRADE.

THE TEACHING OF BUILDING CONSTRUCTION.

IT has of late years been evident to many thoughtful teachers of building subjects that much of their effort has been misdirected, and a step has recently been taken under the ægis of the Board of Education to place the technical education of building students on a more satisfactory foundation.

Several authorities are concerned in the welfare and education of building students, notably the Board of Education, the Royal Institute of British Architects, the Surveyors' Institution, and the City and Guilds of London Institute, and, though much good work has been done, more still remains to be done.

Many of the technical institutions throughout the country have for some years recognised that the grouped course system, instead of single classes in single subjects, shows promise of the best results, and in nearly all cases such a system is in course of development. It is in the direction of this system that the Board of Education, acting through Mr. Hugh Davies, His Majesty's Inspector of Building Schools, have initiated a new movement, the first step of which has just been brought to a successful conclusion. The teaching of building construction, as being the foundation upon which architect, surveyor, builder or craftsman must base all their knowledge and subsequent skill, was chosen for the first experiment, and as, in order successfully to teach the students, it is necessary to have efficient teachers, so building teachers, to the number of thirty, were carefully selected from England and Wales to attend a short full time course of instruction which was held at the Bournemouth Municipal College from August 2 to 14.

In the present stage of our national history the holding of such a course has a special significance; and the desire expressed by many people, both in and out of Parliament, that we, as a nation, should make preparation for the aftermath of the war, when we shall be called upon to take a foremost position in the world, has undoubtedly added great stimulus to the movement.

As previously suggested, the old method of teaching building construction as a single subject resulted in much that was inefficient; more or less inaccurate diagrams were placed before the student, or text-book illustrations were set as copies to be reproduced by him, and it was clear that, in many cases, the fundamental principles of geometrical drawing were unknown or unconsidered; while mathematics, if taught at all, was relegated to a mathematical teacher, who was often unable to give interest to his problems by practical applications to building matters.

Similarly with the case of materials. The student was given a list of bricks and stones, which may or may not be common in his district, and he was informed that some were suitable for town use, while others should only be used for internal work, and he had little or no opportunity of actually handling the material and ascertaining its behaviour under certain conditions. If he desired to study the chemistry or physics of these materials, he was handed over to the ordinary lecturers in those subjects, with the result that such knowledge as he did obtain was of little use to him, since their application to building was not shown or inferred.

The grouped course system aims at a definite correlation of these matters, and the summer course just concluded at Bournemouth goes even further, and outlines a syllabus whereby the whole of the teaching of building subjects shall be concentrated in the hands of fully-trained building teachers.

It is considered that three classes should form a grouped course, and those suitable for the first year of a senior course in the building department of a technical school are: Building construction and drawing, building geometry and mathematics, and building science. Accordingly these were selected by the Board of Education for their experiment in the establishment of this, the first school of its kind to be held in the kingdom, and the very close correlation of these three classes, which the lecturers in charge were able to maintain both in spirit and matter, was not only gratifying, but constituted a model in itself of what should be possible in every technical school throughout the country.

Mr. Walter R. Jaggard, F.R.I.B.A., lecturer in building construction at the Northern Polytechnic Institute of London, was placed in charge of the building construction and drawing section at Bournemouth, and as the central class of such a course it was of special importance. The lecturer was able to suggest a model syllabus covering one session's work, and since some of the work which has hitherto been included in this class can now be definitely allocated to one of the other classes, it is possible to deal more thoroughly with the main principles of building construction. Much emphasis was laid upon the acquisition by the student of skill in drawing as the practical means by which the ideas of the designer may be conveyed to the craftsman and by him converted into the actual building. Fresh methods of presenting the fundamental rules relating to the trades of the bricklayer, mason, carpenter and joiner were suggested and the liberal use of correctly made models was insisted upon. Some interesting ideas for building models were enunciated by the lecturer, and the study of architecture and architectural history was recommended, not only as a fascinating study in itself, but as a means of broadening the outlook of building teachers and deepening their sense of proportion and good taste, and through them doing something towards the inculcation in their students of a true perception of the beauty and dignity of building.

The building, geometry and mathematics class was conducted by Mr. F. E. Drury, F.I.S.E., M.C.I., Head of the Department of Building and Civil Engineering at the Royal Technical Institute at Salford, who presented a scheme of instruction in this section which was particularly suitable for building students and which excited considerable interest. By his original presentation of the matter, and the use of ingenious models and folded paper, the lecturer was able to make the work both interesting and attractive, and his applications, selected solely from building and structural problems, were closely followed and appreciated by the teachers present. Considerable emphasis was laid upon the necessity for a close correlation with building terms and with the other classes of the grouped course, and the many academical problems usually associated with the study of geometry were conspicuous by their absence; at the same time, fundamental principles were thoroughly explained and applied.

The class in building science, which is a subject of quite recent introduction, and opens up a very wide field in experimental science as related directly to building, was conducted by Mr. J. Leask Manson, B.Sc.Eng. (Lond.), M.R.S.I., A.M.C.I., Head of the Building Trades Department at the Municipal Technical School at Leicester. The inclusion of such a section in a building course of this character marks an important and interesting stage in the development of building teaching. The class was an experimental one throughout, and the simple problems dealt with, together with the type of apparatus used, were followed with close attention and fully noted by the teachers. The need for close association with building was insisted upon, the chief object dwelt upon, at this stage, being the preparation of the student so that the knowledge and training gained might enable him in subsequent years to deal fully with the relations of science to building, which has so far received only cursory treatment in the schools.

A visit was paid to Christchurch Priory, under the guidance of Mr. Jaggard, who, whilst discoursing upon the history and architectural features of the building, offered various suggestions as to the method of conducting students on such visits. Another visit was made to Messrs. Carter and Co.'s tile and faience works at Poole, and many items of interest were examined and noted. These visits, though not considered essential to the grouped course for first year students, were undertaken as matters of general interest and in order to offer advice as to the value or otherwise of such excursions.

Some interesting homework, consisting of single questions which should definitely correlate the three sections of the course, was submitted by the teachers and was discussed alternately by the lecturers at stated intervals, and many ideas were thus set in motion.

Arising out of the building science class one problem set for solution deserves mention. The teachers were asked to submit schemes for the arrangement and equipment of one of the large rooms at the college as a laboratory specially suitable for the conduct of the experiments required in this subject. It was carried through with avidity and some very interesting schemes were forthcoming, which were discussed with much good humour by Mr. Manson, who also expounded a joint scheme prepared by the lecturers.

We may add that it was evident that this short course proved very satisfactory to all concerned. The teachers expressed themselves very strongly on this point, and though they acknowledged that the fortnight was a very strenuous one, they urged that the success of this experiment should pave the way for further and wider developments in the future.

Those who are acquainted with our technical schools will agree that there is a great and pressing need in this important branch of technical education, and it is felt that this vigorous and progressive policy of the Board of Education deserves, and we hope will receive, the heartiest support of all who are interested in the education and training of those to whom the building industry of this country will be committed in the future.

BRISTOL DOCKS.

The Bristol Docks Committee has accepted Mr. T. C. Gluyas's tender for the construction of a footbridge across the south end of Portishead Dock, and also the tender of Messrs. Buchanan & Curwin for electric lighting of the sheds in course of erection at the Royal Edward Dock.

THE EARLY DAYS OF SHRAPNEL.

The Carron Company, of Carron, Stirlingshire, whose existence as a firm dates back over a century and a half, draw our attention to some records in their possession which are interesting as bearing on the early history and development of shrapnel shell. One of the documents is an exceedingly polite but determined letter addressed on October 10, 1804, to Lieutenant-General Ross, of the Honourable Board of Ordnance, London, which sets forth that the company "has suffered very considerable inconvenience by being kept out of the money due for Stores sent to Dublin, Leith, and other places for the accommodation of your Board," and requests him to "give directions that the Bills brought into your Office as Surveyor-General and not yet payed be payed without delay." The letter continues:—"I am satisfied that upon inquiry you will find the Bills to which I refer are all in a situation to be payed, particularly the sums due for the work done under the direction of Major Shrapnel"; and it also gives "particulars respecting the business done under Major Shrapnel's orders," the items including "Spherical Case Shot certified by Major Shrapnel in September and October, 1803, £4,587 11s. 2d.; do., shipped on board the *Melville Castle* for Dublin in November, £596 9s. 8d., and do., shipped on board the *Princess Elizabeth* for Dublin in November, £1,455 14s. 8d.," together with "expenses incurred by Major Shrapnel's experiments at Carron in 1803, £191 11s. 10d." The invoice book of the company under date December 31, 1803, also gives a list of "sundry articles furnished Major Shrapnel for his various trials of the Spherical Case Shot," including over 1,300 spherical case shot ranging from 3-pdrs. to 68-pdrs., at from 6d. to 5s. each, and "Thomas Smith, Tenant, for damage done to his farm, £5 5s." It will also be remembered that the carronade, a short, light gun, resembling a mortar, which was adopted by the British Navy in 1779, took its name from the fact that it was first cast at the Carron Works.—*The Times.*

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

AIRDRIE.—The Dean of Guild Court has passed plans by the Airdrie and Coatbridge Tramways Company for a garage and offices, at an estimated cost of £2,400.

Amersham.—Plans have been passed by the R.D.C. for a house in Ashley Green for Mr. Kew; house in King's-road, Chalfont, for Mr. Axe; two houses, Chalfont St. Peter, for Mr. Morley.

Annfield Plain.—Six houses, Churnside-terrace, for Messrs. Lee and Dunn; house and shop at Dipton Wood for Messrs. Reynoldson; six houses, Churnside-terrace, for Messrs. Lee & Dunn.

Armagh.—The T.C. has granted permission to Mr. Parkinson, architect, to make waterproof those cottages built of brick and having a 9-in. wall. In wet weather the water penetrated, twenty-nine cottages being affected.

Bath.—Steps are now being taken in connection with the proposed military hospital for wounded soldiers to be erected at Combe Park. The site has been pegged out preparatory to making the plan on which the contractor will have to work. According to present intentions, no buildings of any kind will be placed upon what is known as the Lansdown Cricket Club's inclosure. The present idea is to construct ranges of huts in the meadow lying to the east and north of the cricket field.

Bedford.—The R.D.C. has approved plans for pair of cottages at Sharnbrook for Messrs. Hipwell & Sons, and house at Harrold for Mr. Edgar Clayson. The R.D.C. has also decided to ask the L.G.B. to sanction a loan of £500 for dealing with the drainage of the Isolation Hospital.

Bridgwater.—The R.D.C. has adopted a scheme for the proposed new road at Wembdon.

Bristol.—The Docks Committee has approved a proposal from the Weston, Clevedon, & Portishead Light Railway Company to construct a landing stage and other works on the foreshore of the river Yeo at Wick St. Lawrence. Proposals for providing additional messroom accommodation at Portishead Dock are before the Committee.

Cardiff.—The directors of the Cardiff Railway Company have decided to proceed with the scheme prepared by Col. Deniss, the General Manager, who expects that it will increase the coal shipping capacity of tips at the Bute Docks by nearly 50 per cent. Notice will be given of the company's intention to promote a bill in Parliament.

Cardiff.—The Cardiff and Bristol Channel Shipowners' Association have approved proposals by the Cardiff Railway Company for abolishing divided control of the working of traffic at the docks and for improvements generally, which, it is estimated, will increase shipments by 50 per cent.

Chelmsford.—Plans for a house in Swiss-avenue, a new building for the National Steam Car Company in New Writtle-street, and a garage on Broomfield-road have been approved by the T.C. Block plans by the Hoffmann Manufacturing Company for new works at the corner of New-street and Rectory-lane have been referred to the Sanitary Committee.

Chipping Sodbury.—The R.D.C. have agreed to the construction of a proposed drain at Frampton Cotterell to obviate flooding, the work to be deferred until after the war.

Chorley.—The T.C. have approved an extension to the motor works, off Bolton-road, for the Leyland Motors, Ltd.

Clitheroe.—Plans of five cottages and a home farm, proposed to be erected by the C.W.S. at Withgill, have been approved by the R.D.C.

Colwyn Bay.—Bungalow in Brompton-avenue, for Mr. W. Stephsonson; two bungalows on Rhos Golf Links, for Mrs. Foote-Badham; two houses in Upper Promenade, for Mr. O. Jones; two cottages, Beach-road, for Mr. I. Roberts.

Donaghadee.—The T.C. has decided to require a number of owners to connect houses to the new sewerage system, where such had been recommended by the Medical Officer of Health.

Dover.—Plans passed by the R.D.C. for two bungalows at Whitfield, for Mr. Beaufoy.

Edmonton.—Mr. Mummery, architect, having consulted with Col. E. H. Hills, representing the chief engineer of the Eastern Command, has submitted to the B.G. a scheme for the proposed extension of the military hospital at Edmonton by 300 beds, accommodated in huts, at a cost of £9,000 for buildings and £4,000 for furniture, etc., and this has been approved.

Eton.—House in Bulstrode Way, Gerrard's Cross, for Mr. C. C. Baldwin.

Fylde.—Shop off Singleton-road for Mr. W. Hodgkinson; shop in Singleton-road for Mr. J. Halsell.

Greenock.—A sub-committee of Greenock Corporation are considering a scheme for providing hut dwellings for the workmen engaged in the Royal Naval Torpedo Factory, Battery Park, adjoining the factory, is the site proposed, and it is calculated that accommodation for 500 persons, including married couples, could be provided in this way.

Horsham.—The Council have decided to arrange for the extension of the storage battery at the electric lighting station.

Leek.—The R.D.C. have accepted the plan of Mr. Moss, contractor, for the extension of the hospital at Tinsters Wood, at a cost of £530.

Lurgan.—The Board of Works have agreed to issue to the Lurgan Town Council a supplemental loan of £1,200 for the completion of fifty-three artisans' dwellings in Wellington-street, at present rented by the military authorities. The original loan was for a sum of £10,000.

Maidstone.—Plans passed by the T.C.:—Earl-street, internal alterations at the Empire Picture Palace, for Mr. J. C. Dunk; Bower-lane, addition to cellar, "Anchor and Hope," for Messrs. Style & Winch, Ltd.

Mansfield.—Factory in Dellas-street, for Mansfield Shoe Company; additions to premises in Midworth-street, for Mr. J. W. Warnman; additions to factory in St. John-street, for Messrs. Alcock and Co.; additions to foundry, Union-street, for Messrs. Sansom Bros.; two houses, Southwell-road, for Mr. J. W. Baxter; two houses, Southwell-road, for Mr. L. Bright; addition to factory for Messrs. Pickard & Sons.

New Zealand.—The Imperial Trade Commissioner at Dunedin reports that the Bay Town Board, controlling the suburb of Dunedin, proposes to expend about £6,000 on the extension of the present water supply, drainage, and electric light system and the construction of a retaining wall.

Oxford.—The City Council have accepted the tender of the Trinidad Lake Asphalt Paving Company for the laying of 36,683 super yds. of asphalt macadam paving, at a cost of £12,701.

Portugal.—The "Ministerio do Fomento" has approved a project for a water supply system for the town of Evora, at an estimated cost of £16,000.

Raunds.—A L.G.B. inquiry has been held in connection with the application of the U.D.C. for sanction to borrow £1,500 for the provision of a new cemetery.

Rawtenstall.—Plans have been passed for a Sunday school for the trustees of the Cloughfold Wesleyan Chapel; for a benzine store at Constablelee Bleach Works, for the Cotton Cellulose Company, Ltd.; for a bakehouse and alterations at 91, Bury-road, for Mr. E. Hardman; and for the extension of a warehouse at Longholme Felt Works, Rawtenstall, for Mr. R. Ashworth's branch of Messrs. Mitchells, Ashworth, Stansfield, & Co., Ltd.; two houses in Melbourne-street, for the Waterfoot Co-operative Society; for a petrol store at Dale Mill, for Messrs. J. Butterworth & Sons; and for extension of the Holt Mill Slipper Works, Waterfoot, for the executors of the late E. Ashworth.

Rosyth.—The Dunfermline T.C. has agreed to borrow from the Public Works Loan Commissioners, upon the security of the Public Health general assessment, a sum of £50,000 for the purpose of assisting the Scottish National Housing Company, Ltd., which is to provide dwelling-houses in the Rosyth area, by becoming holders of share capital in the Company to the extent of 50,000 £1 shares.

St. Helens.—The L.G.B. has held an inquiry into the application of the Corporation for leave to borrow £15,000 for the extension of the electricity works and the provision of additional plant.

Saratov (Russia).—H.M. Commercial Attaché at Petrograd (Mr. H. Cooke) reports the publication, in the official *Bulletin of Laws*, of decrees authorising the municipal authorities of Saratov to raise two loans, one of 1,020,000 roubles, to be devoted to carrying out road paving works at that town, and the other of 800,000 roubles for the extension of the local water supply system. (Rouble=2s. 1d. at par.) The loans, says the *Board of Trade Journal*, are subject to the usual proviso that all orders for material and equipment must be given to Russian firms, unless special authority to make purchases outside Russia is obtained from the Ministers of the Interior and of Commerce.

Sedgefield.—A plan of a new picture house at Fishburn has been passed by the R.D.C.

Southend.—Bungalow, Marguerite-drive, for Mr. S. C. Arnold; seven houses, Gainsborough-drive, for Mr. H. Pitt; one house, Southview-drive, for Mr. T. J. Dennis.

Stockton.—The Guardians have approved of a sketch plan of the proposed piggeries at the workhouse, and ordered it to be sent to the L.G.B. for their approval; the estimate of Messrs. Isaac Robson & Co., Ltd., for a ventilating fan in the laundry at £9 15s. 6d. has been accepted.

Strood.—The R.D.C. has decided to approach Mr. H. M. Cobb with regard to the offers of land, and to write local architects for terms for preparing plans and superintending the erection of fifty cottages.

Tyrone.—The Co. Tyrone Tuberculosis Committee have decided to accept tenders for turning Dungannon House into a county sanatorium, at a cost of £2,015, and for erecting new pavilions in the grounds at £2,750.

Wellington.—A L.G.B. inquiry has been held concerning an application by the Salop C.C. for a loan for a sum not exceeding £800 for the purchase of five acres of land at Hadley, as a site for an isolation hospital for the Wellington Joint Hospital District.

Winchester.—The R.D.C. has decided to enter into a contract with Messrs. Duke & Ockenden for the installation of new machinery for pumping purposes at the Owslebury Waterworks.

A DECEASED BUILDER'S ESTATE.

Mr. William Tovey, of Glenview, Midsomer Norton, builder, who died on May 21 last, left estate of the gross value of £9,664 9s. 7d.

* See also our list of Competitions, Contracts, etc., on page 180.

GENERAL BUILDING NEWS.

NEW SCHOOL, TRETHOMAS.

Councillor L. Forestier-Walker, J.P., recently opened the new Council school at Tynywern, Trethomas, erected at a cost of £10,500, and accommodating 800 children. The contractor was Mr. R. W. Moon, Newport. The school was designed by Mr. J. Bain, F.R.I.B.A.; Mr. D. W. Price, New Tredegar, was clerk of works.

TRADE NEWS.

Messrs. Claridge have sent us a most useful telephone call tablet, with a paper tablet for notes on one side and a series of alphabetical cardboard slips on the other, with space for names and telephone numbers so arranged as to obviate much trouble in reference. When it is remembered that one uses the telephone hurriedly in many cases, the convenience of the tablet will be appreciated. It is made for hanging against a wall, and is the best and neatest thing of the kind we have had before us.

Messrs. the Silicate Paint Company, J. B. Orr & Co., Ltd., Charlton, S.E., have sent us particulars of their "Petrifying Liquid" for preserving stone. This material arrests decay in buildings, bringing the surface treated to its original colour without obliterating the grain of the stone, or giving it a painted appearance, and it sinks deeply into the surface coated, petrifying it. The manufacturers state that petrifying liquid has now been extensively used for nearly forty years for arresting decay and waterproofing porous stone and brick buildings, monuments, etc., with the most satisfactory results. The price of Silicate Petrifying Liquid is: trade, 2s. 6d.; retail, 3s. 6d. per gallon (12 gallons about equal 1 cwt.); 3 cwt. delivered free.

Boyle's latest patent "air-pump" ventilators have been applied to Messrs. S. Fletcher & Son's new factory, Wood-street, Ilkeston.

We understand that the architects for the Middleton Sanatorium have adopted the powder Pudlo for the waterproofing medium, and, in addition, have specified its use in a large training college.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

SHIRES ESTATES, LTD. (141,343). Registered August 21. To purchase or acquire for investment in resale, and to traffic in land, house, and other property of any tenure situate in the United Kingdom. To develop and turn to account any land acquired by the company. To prepare same for building, constructing, altering, and pulling down, decorating, fitting, draining, farming, etc. To construct gas-works, waterworks, hotels, clubs, restaurants, etc. Nominal capital, £2,000 in £1 Ordinary shares.

"FIBERLIC" WALL BOARDS.

One of the latest wall boards on the market is a board known as "Fiberlic." By reason of its strength the makers prefer to call it a building board. The ordinary wall boards are made from wood or paper pulp. "Fiberlic" is a strong board, the basis of which is a fibrous root of considerable toughness and strength. These root fibres are chemically treated to remove all resinous matter, and built up in layers under hydraulic pressure. This board, by reason of the chemical treatment, is highly fire-resisting and is a non-conductor of heat, cold, and sound; it is also damp and vermin proof. It has been tested for strength against every board in its class, and the makers state the result showed that this board withstood a bursting test fully 50 per cent. higher than any other board. The prices compare favourably with those of others, and the initial expense of erection—which is much cheaper than lath and plaster—is, we are informed, the final expense. That is to say, there are no maintenance costs, as the board, once put up, becomes a permanent part of the building, and will last as long as the building does. Any handy man can perform the operation of erecting this board. Messrs. MacAndrews & Forbes, Ltd., Finsbury-court, London, E.C., are the proprietors, and they offer to send samples to any firms interested. "Fiberlic" building board, they explain, will not warp or crack. The sample we examined seemed extremely hard and rigid, but we have not tried it in actual practice. We should advise all who are interested to get the sample offered and use their own judgment.

PATENTS.

APPLICATIONS PUBLISHED.*

29,830 of 1913.—Edmund Altenkirch and Bernhard Tenckhoff: Central heating installations.

2,947 of 1914.—Mannesmannröhren-Werke and Ludwig Schomburg: Packings for socket pipes.

3,005 of 1914.—Friedrich Willy Stangenberg: Hoist for building materials.

4,764 of 1914.—Hermann Graumüller and Martin Piechatzek, trading as F. Piechatzek: Brake and clutch for use on hoisting devices.

6,446 of 1914.—Michael Watson: Water-heater for hot-water circulating systems for heating rooms, buildings, and the like.

11,909 of 1914.—Francis Murr Ketton: Reversible sashes and the like.

12,824 of 1914.—Jean Habscheidt: Sand-moulding machines.

14,379 of 1914.—Robert Henry Fowler (William Turner): Implement for laying cables or wires in the ground.

14,690 of 1914.—August Finger: Fireproof plates for building purposes.

14,894 of 1914.—George Seymour Higginson and Nehemiah Guthridge Bithrie: Apparatus for the crushing, disintegration, or pulverisation of materials.

15,551 of 1914.—Sigurd Henriksen: Method of and apparatus for the manufacture of hollow bricks or building blocks with internal spiral ribs.

15,801 of 1914.—Franz Xaver Hallinger and Hallinger & Co., Gesellschaft Mit Beschränkter Haftung: Building of waterproof tunnels.

15,844 of 1914.—Matthaus Fränkl and the firm of G. Kuntze: Sectional radiator for heating buildings and the like.

17,756 of 1914.—Emilo Longan y Senan: Cements and concretes.

17,786 of 1914.—Henry Albin Recen: Tunnelling machines.

17,952 of 1914.—Henrik Frederik Theodor Lindballe: Process for binding road dust.

18,058 of 1914.—Egbert Habberton Gold: Low-pressure steam heating systems.

18,354 of 1914.—James Edgar Hobbs: Drying, mixing, and agitating machines or appliances.

18,355 of 1914.—James Edgar Hobbs: Drying, mixing, and agitating machines or appliances.

18,410 of 1914.—David Emerson Reid: Mills for grinding pigments and the like.

18,439 of 1914.—Walter William Crawford: Fireproof compositions.

18,876 of 1914.—Arthur Charles Frederick Halford: Reflection and diffusion of artificial light.

18,916 of 1914.—Geoffrey Murton Gill and David Boswell Donald: Apparatus for disinfecting water-closets, urinals, and the like.

20,463 of 1914.—Wallace Clement Sabine and Rafael Guastavino: Walls and ceilings in auditoriums and the like.

21,074 of 1914.—Emma Pauline Cunliffe Owen: Construction of huts.

21,476 of 1914.—Alexander John Bates and Joseph and Edward Bates & Sons, Ltd.: Sheet-metal shelves, lockers, pigeon-holes, cabinets, and the like.

21,836 of 1914.—Charles Peach Swanson: Apparatus for tapping holes in decks and other surfaces.

23,993 of 1914.—Samuel Henry Cashmore, Alexander McKay, and Harold Ridsdale: Tapering machine for wood and other materials.

24,547 of 1914.—Adam J. Bauer and Charles Caleb Annabel: Adjustable window-screens.

24,722 of 1914.—Eli Adler: Safety grips for beams and the like.

60 of 1915.—Gabriel Yves Olivier Jean Marie Comte de la Poèze: Radiators for heating buildings.

3,166 of 1915.—Charles Alexander Christianson: Ventilating and draught-inducing apparatus.

3,295 of 1915.—William Henry Baxter: Stone-breaking and ore-crushing machines.

3,713 of 1915.—John Moffett Peterson and John Meredith: Door-handle locking device.

8,301 of 1915.—William Newman & Sons, Ltd., and Herbert George Newman: Panic or emergency latches for doors.

A DECEASED BUILDER'S ESTATE.

The late Mr. John Eastwood, of Fulwich-road, Dartford, Kent, builder, has left estate to the gross value of £40,596.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principa towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	10	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	6½	7
Ashton-under-Lyne	10½	10½	10	10½	9	10	9	6	6	7
Barnsley	9½	9½	9½	9½	9	9	8½	7	7	7
Barrow-in-Furness..	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	6	6	6
Bedford	8	8	8	8½	8	9	6½	5½	5½	6
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	11	11	11	11	10½	11½	9½	8	8	8
Bishop Auckland..	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	10	9½	10	9½	6½	7½	7½
Blackpool	10½	9½	9½	9½	8½	9	8½	6	6	6
Bolton	10	10½	10	10½	10	10	9½	6–7	7	7
Bournemouth	8½	9	9	9	8½	9	8½	6½	6½	6½
Bradford	10	10	9½	9½	9½	10	8½	7	7	7
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10½	10½	10½	10½	—	10½	9½	7½	7½	7½
Burnley	10	10½	9½	9½	8	9	9½	7	7	7½
Burton-on-Trent ..	9	9	9	9½	9	9	8½	6½	6½	6½
Bury	10½	10½	10	9	9½	10	9	6	7	7
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½–9	7	5	5	5
Cardiff	10	10	10	10	10	10	9	7	7	7
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8½	6	6	6
Chester	9½	10	9½	9½	9½	9½	8½	5½	6½	6½
Chesterfield	9	9	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	10½	10½	10½	9½	10½	9½	7½	7½	7½
Crewe	7½	8	7½	9	8½	8	7½	5½	5½	6
Darlington	9½	9½	9½	10	10	9	8½	6½	6½	6½
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9	9	9	8	6½	6½	7
Dudley	8½	8½	9	8½	8½	8	7½	5½	5½	6
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glamorgan and Monmouthshire Valleys	9½	9½	9½	9½	—	—	8½	6½	6½	6½
Exeter	8	8½	8	8½	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7–7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	5½	5½	5½
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9½	9	8	8½	7	7	7
Great Yarmouth ..	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9	8½	8½	9	8½	7	7	7
Harrogate	9½	9½	9	9	8	9	8½	6½	6½	6½
Hartlepools	9	10	9½	10	10	10	9	7	7	7½
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	7	5½	5½	5½
Huddersfield	10	9½	9½	9½	10	9	8½	7	7	7
Hull	10½	10	10	10	10	10	8½	7½	7½	7½
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	6	6	6½
Leamington Spa ..	9	9	9	8½	9	9	8	6	6	6
Leeds	10	10	10	10	10	10	8½	7½	7½	7½
Leicester	9½	9½	10	10½	10	9½	9	7	7	7½
Lincoln	9	8½	8½	9	8½	8½	8	6	5½	6½
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough ..	9	8½	8½	9	9	8½	7½	5½	5½	6½
Luton	9½	8½	8½	8½	9	8½	7½	6	6	6
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	10	10½	10½	11	10	10	9½	6½	6½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil ..	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough ..	9	10	9½	10	10	10	8½	7	7	7½
Newcastle-on-Tyne.	10½	10½	10½	10½	10	10	9½	7½	7½	7½
Newport, Mon.	10	10	10	10	8½	10	9	7	7	7
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8½	8½	8½	8½	8	8½	7½	6	6	6
Nottingham	10	10	10	10½	9½	10	9	7½	7½	8
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9	9	9	9	9	9	8	6½	6½	6½
Pontypridd	9½	9	9	9½	9	9	8	6½	6½	6½
Portsmouth	9½	9½	9½	9½	—	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	6	6½	6½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10½	10½	10	10	8½	9½	9	7	7	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	9½	9½	9½	8	9½	8½	8½	6	6	6
St. Albans	9	9	9	9–10	9	9–10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6½	6
Scarborough	9	9½	9	8½	8	9	8	7	7	7
Sheffield	10½	9½	9½	9½	9½	10	8½	6½	6½	6½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea ..	9	9	9	9	P'cework	9	7	6	6	6
Southport	10	10	9½	9½	9½	9½	9½	6½	7	7
South Shields	10½	10½	10½	10½	10	8½	9½	7½	7½	7½
Stockport	10½	10	10	10½	9½	10	9½	6	6½–7	7½
Stockton-on-Tees .	9	10	9½	10	10	10	9	7	7	7½
Stoke-on-Trent ..	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	10	10½	10	10	10	9	9½	6½	6½	7
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	6
Wakefield	9½	9½	9	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	9	8	6½	6½	6½
Warrington	8½	9½	9½	10	8½	9½	8½	5½–6	6	6–6½
West Bromwich ..	10	10	10	10½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton ..	9½	9½	9½	10	8	10	8	6½	6½	6½
Worcester	8½	9	9	9	9	9	7½	6	6	6
York	9½	9½	9	9½	9½	9	8½	7	7	7

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. **Those with an asterisk (*) are advertised in this number:** Competitions, —; Contracts, vi.; Public Appointments, —; Auction Sales, xvi. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Competition.

NOVEMBER 30.—**York.**—TOWN PLANNING.—The Town Planning Committee of the York Corporation invite competitive schemes under the Housing and Town Planning, etc., Act, 1909, in connection with certain areas within and without the city.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

SEPTEMBER 3.—**Bristol.**—TIMBER CANTILEVER ROOF.—Construction, etc., of a timber cantilever roof and other alterations to the verandah of some of the sheds on the east side of the Avonmouth Dock, for the Docks Committee. Specification, etc., of Mr. Thomas A. Peace, Engineer, Engineer's Office, Cumberland-road, Bristol. Deposit, £2.

SEPTEMBER 6.—**Cwrt Sart.**—ALTERATIONS.—For alterations to Council School at Cwrt Sart, Briton Ferry for the Glamorgan C.C. Quantities of Mr. T. Mansel Franklen, Clerk, Glamorgan C.C., County Hall, Cardiff.

SEPTEMBER 6.—**Grimesthorpe.**—PAINTING.—Painting outside Holywell-road Schools and Page Hall Mission; also colour washing inside latter place. Mr. G. A. Hatton, 70, Selwith-road, Grimesthorpe.

SEPTEMBER 6.—**Trebanos.**—ALTERATIONS.—For alterations to the Council School at Trebanos, Swansea Valley. Quantities of Mr. T. Mansel Franklen, Clerk of the County Council, Glamorgan C.C., County Hall, Cardiff.

SEPTEMBER 7.—**Bootle.**—ALTERATIONS.—Alterations to the existing Weights and Measures Department in the Municipal Offices. Quantities at the Borough Engineer's Office, Town Hall.

SEPTEMBER 9.—**Manchester.**—HOUSE.—Erection of the Customs Watch-house at Eastham Locks, for the Manchester Ship Canal Company. Quantities at the Resident Engineer's office, Eastham Locks. Deposit, £1, 1s.

SEPTEMBER 9.—**Manorhamilton.**—ADDITION.—Erection of room in connection with cottage at Cloneen, for the R.D.C. Specification of Mr. E. Walsh, Clerk, Manorhamilton. Deposit, £1.

SEPTEMBER 11.—**Clown.**—PAINTING.—Painting a water tower at Barlborough, for the Clown R.D.C. Specification of the Waterworks Manager, Mr. J. T. Pears, Hollin Hill, Clown, Chesterfield.

SEPTEMBER 11.—**Glamorgan.**—VARIOUS.—(1) Plumbing work, etc., at Nelson Police Station; and (2) repairs and painting at Porth Police Courts, for the Joint Standing Committee of the Glamorgan Quarter Sessions and County Council. Quantities of Mr. T. Mansel Franklen, Clerk, Glamorgan County Hall, Cardiff.

SEPTEMBER 11.—**Hove.**—PAINTING.—Painting the external wood and iron work of the Hove Sanatorium. Particulars of the Borough Surveyor, Mr. H. H. Scott, Town Hall, Hove.

SEPTEMBER 11.—**Stanley.**—PAINTING.—For painting Aged Miners' Homes at John Wilson-street, Stanley. Specifications of Mr. F. Woodley, 7, Alfred-street, Stanley.

SEPTEMBER 13.—**Jarrow-on-Tyne.**—FOOTBRIDGE.—Extension of a footbridge at Jarrow-on-Tyne for the North-Eastern Railway Company. Quantities of Mr. C. F. Bengough, Engineer, Forth Banks, Newcastle-on-Tyne.

SEPTEMBER 13.—**Nottingham.**—REPAIRS.—For carrying out minor repairs at Children's Homes of B.G. for six months. Forms of tender at the Poor Law Offices, Shakespeare-street, Nottingham.

SEPTEMBER 14.—**Jarrow.**—WAREHOUSE, ETC.—Alterations to station buildings, erection of new goods warehouse, etc., at Jarrow, for the North-Eastern Railway Company. Quantities of Mr. Arthur Pollard, Company's Architect, Irving House, Westgate-road, Newcastle-on-Tyne.

SEPTEMBER 14.—**Newport.**—PAINTING.—Painting outside of Cwm and Tallistown Institute, Cwm, near Newport, Mon. Mr. A. G. Pitts, Secretary.

OCTOBER 1.—**Neath.**—HOSPITAL.—Erection of new Joint Isolation Hospital, Cymla, Neath, for the Joint Hospital Committee. Quantities of the architect, Mr. J. Cook Rees, Parade-chambers, Neath. Deposit, £2. 2s.

NO DATE.—**Brentwood.**—RE-POINTING.—Repointing, etc., Harold Court Branch Asylum, Harold Wood. Specifications from the Clerk of the Asylum, Brentwood.

NO DATE.—**Knaresborough.**—ADDITIONS.—Additions and alterations to the temporary premises in connection with the Knaresborough Rural Secondary School. Specifications of the Education Architect, County Hall, Wakefield.

NO DATE.—**Lancaster.**—REPAIRS.—Work required in renovation of twelve houses in Lancaster. Specification of Mr. J. Thompson, architect, 21, Sun-street, Lancaster.

FURNITURE, MATERIALS, etc.

SEPTEMBER 6.—**Leicester.**—MATERIALS.—Supply of builders' materials, paints, and timber to B.G. Forms of tender at the Poor Law Offices, Pocklington's-walk, Leicester.

SEPTEMBER 6.—**London.**—GAS CHIMNEYS, ETC.—Supply to the Commissioners of His Majesty's Works, etc., of gas chimneys and globes during a period of six months from October 1, 1915. Forms of tender of the Controller of Supplies, H.M. Office of Works, 18, Queen Anne's-gate, Westminster, S.W.

SEPTEMBER 6.—**Loughton.**—ROAD MATERIAL.—(1) For from 500 to 1,000 tons of rail-borne granite; (2) from 500 to 1,000 yds. of clean, sharp gravel, for Loughton U.D.C. Forms of tender from Mr. Horace White, Surveyor, Loughton, Essex.

SEPTEMBER 6.—**Southwick.**—ROAD MATERIALS.—Supply to the Steyning East R.D.C. of 100 tons of 2-in. gauge granite and 50 tons of similar chippings. Forms of tender of Mr. J. S. Mant, Surveyor, Town Hall, Southwick.

SEPTEMBER 7.—**Birmingham.**—MATERIALS.—Supply of various stores required by the Gas Department of the Corporation. Forms of tender of Mr. R. S. Hilton, Secretary, City Gas Offices, Birmingham. Deposit, 5s. each form.

SEPTEMBER 7.—**Coventry.**—MATERIALS.—Supply of paints and plumbers' sundries, engineers' oil, etc., to the B.G. Form of tender of Mr. E. A. Evans, Clerk, 13, Little Park-street, Coventry.

SEPTEMBER 7.—**Islington.**—MATERIALS.—Supply of gas and electric fittings, paints and oils, building materials, etc., to the Guardians of St. Mary, Islington. Forms of tender of Mr. E. Davey, Clerk, St. John's Wood-road, Upper Holloway, N.

SEPTEMBER 8.—**Gateshead.**—MATERIALS.—Supply to the Gateshead Asylum, Stannington, of oils, paints, glass, etc., and timber. Forms of tender of the Steward of the Asylum.

SEPTEMBER 8.—**Holborn.**—MATERIALS.—Supply of ironmongery, gas fittings, etc., for the engineers' work for the B.G. Forms of tender of Mr. H. G. Holder, Clerk, 53, Clerkenwell-road, E.C.

SEPTEMBER 8.—**India.**—RAILWAY MATERIALS.—Supply to the South Indian Railway Company, Ltd., of:—(1) Wrought iron, bar; (2) locomotive duplicate parts; (3) steel. Specifications of Mr. Robert White, Consulting Engineer to the Company, 3, Victoria-street, S.W. Charge, 10s.

SEPTEMBER 8.—**Westminster.**—MATERIALS.—Supply to the Westminster City Council of gullies (stoneware) construction, plates, sheets, bolts, etc., tree guards and sundries, shovels, picks, sewer implements, and edge tools. Forms of tender at the Westminster City Hall, Charing Cross-road, W.C.

SEPTEMBER 9.—**Brentwood.**—MATERIALS.—Supply to Brentwood Asylum, Essex, of ironmongery, iron, steel, etc., timber, cement, building materials, paints, oils, etc. Forms of tenders from the Clerk of the Asylum.

SEPTEMBER 9.—**Plymouth.**—MATERIALS.—Supply to the B.G of builders' materials, plumbing materials, water, steam, and gas fitting, disinfectants, oils and colours, etc. Forms of tender of Mr. W. H. Davy, Clerk to the Guardians, Greenbank-road, Plymouth.

SEPTEMBER 9.—**Woolwich.**—MATERIALS.—Supply of builders' materials to the Woolwich B.G. Forms of tender of Mr. T. Cutter, Clerk's Offices, Union Workhouse, Plumstead, S.E

SEPTEMBER 13.—**Chertsey.**—MATERIALS.—Supply of oil, glass, etc., to the Chertsey B.G. Forms of tender of Mr. H. E. Paine, Clerk, Chertsey.

SEPTEMBER 13.—**Spain.**—CEMENT.—Tenders are invited by the "Junta de Obras del Pantano de Pena," Calle de Asalto, No. 13, Saragossa, for 1000 metric tons of cement required in connection with the Pena drainage works. Copy of *Gaceta de Madrid* at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

SEPTEMBER 15.—**Brentford.**—MATERIALS.—Supply to the Brentford Union of builders' materials, disinfectants, paints, oils, etc. Forms of tender of Mr. F. E. Harmsworth, Deputy Clerk to the Guardians, Union Offices, Isleworth, Middlesex.

SEPTEMBER 20.—**Maidstone.**—MATERIALS.—Supply to the Kent County Lunatic Asylums of oils and colours, cement, etc. Forms of tender of the Stewards at the Asylums at Barming Heath and Chartham.

SEPTEMBER 21.—**Acton.**—FIRE APPARATUS.—Supply to the Acton U.D.C. of a petrol motor fire engine pump and a petrol motor escape. Particulars of the Council Surveyor, Council Offices, Acton.

OCTOBER 5.—**Melbourne.**—STOP CLOCKS.—Supply to the Deputy Postmaster-General of fifty stop clocks, with alarm bell attachment. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

ENGINEERING, IRON, AND STEEL.

SEPTEMBER 6.—**Batley.**—ELECTRIC LIGHT.—Installation of electric light at the Primitive Methodist Chapel, Batley Carr. Specifications at the Chapel.

SEPTEMBER 6.—**Kirkcaldy.**—ELECTRIC LIGHT.—Installation of electric light in sanatorium, etc., for the Town Council. Specification from the Borough Electrical Engineer, Electricity Works, Kirkcaldy.

SEPTEMBER 7.—**Manchester.**—BLOCK TIN.—Supply to the Manchester Corporation Tramways Committee of block tin. Forms of tender of Mr. J. M. McElroy, General Manager, Corporation Tramways, 55, Piccadilly, Manchester.

SEPTEMBER 7.—**Wellingborough.**—DRIVING OF AN ADIT.—For the driving of an adit from the Council's well at their Bushfield Pumping Station for the U.D.C. Plans and copies of the specification of Mr. R. Stevenson Henshaw, Engineer and Surveyor, Council Offices, Wellingborough.

SEPTEMBER 13.—**Lanark.**—HEATING, ETC.—The District Committee of the Middle Ward of the County of Lanark invite tenders for the installation of (*a*) boilers, and (*b*) heating and hot-water supply works at the Hairmyres Colony, East Kilbride. Plans of the Consulting Engineer, Mr. William Arnot, 163, Hope-street, Glasgow.

SEPTEMBER 14.—**Blackrock.**—DISINFECTOR.—Supply of steam type disinfecting apparatus to the U.D.C. Particulars of Mr. J. Mooney, Town Clerk, Town Hall, Blackrock.

SEPTEMBER 14.—**Melbourne.**—RAILS, ETC.—Supply to the Prahran and Malvern Tramways Trust (Melbourne) of (1) 1,350 tons of steel rails and 200 pairs of fishbolts, and (2) 400 steel spare poles and 20 steel anchor poles. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

SEPTEMBER 15.—**Bishop Auckland.**—FENCING.—Supply and erection of 134 lineal yds. of wrought-iron fencing at the hospitals of the Auckland, Shildon, and Wellington Joint Hospital Board. Specification of Mr R. B. Thompson, architect, Bishop Auckland.

SEPTEMBER 21.—**Melbourne.**—TELEPHONE PARTS.—Supply to the Deputy Postmaster General of various telephone parts. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

SEPTEMBER 25.—**Johannesburg.**—METERS, ETC.—Supply to the Municipal Council of 1,595 electricity meters and 50 time switches. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

SEPTEMBER 29.—**Shanghai.**—MACHINERY, ETC.—Supply to the Municipal Council of Shanghai of (1) extra high-tension switchgear, suitable for 22,000 volts working pressure; (2) extra high-tension static transformers; (3) extra high-tension armoured three-core cable for 22,000 volts, with boxes. Specifications from Messrs. Preece, Cardew, Snell, & Rider, 8, Queen Anne's-gate, Westminster, S.W. Deposit, £1 each section.

OCTOBER 6.—**Adelaide.**—ENGINE, ETC.—Supply to the Deputy Postmaster General, Adelaide, of a portable, direct-coupled internal combustion engine and dynamo. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C

[Those with an asterisk (*) are advertised in this issue.]

NEW OFFICES and SHOWROOMS.

Tredegars Ltd.

53, VICTORIA STREET, LONDON, S.W.

will remove OCTOBER next to

7, BROOK STREET, BOND STREET, W.

Specialists in

DECORATIVE PLASTER WORK.
ARCHITECTURAL WOODWORK.
PANELLING, DOORS, STAIRCASES, and CHIMNEY-PIECES.
PERIOD DECORATIONS.
ARTISTIC ELECTRIC LIGHTING SCHEMES.
WOOD FITTINGS for ELECTRIC LIGHT.
COUNTRY HOUSE LIGHTING.
HOUSE WIRING and COMPLETE LIGHTING PLANTS.

MURIBLOC

The Reliable Concrete Partition Slab.

CONTRACTORS TO
ADMIRALTY, WAR OFFICE,
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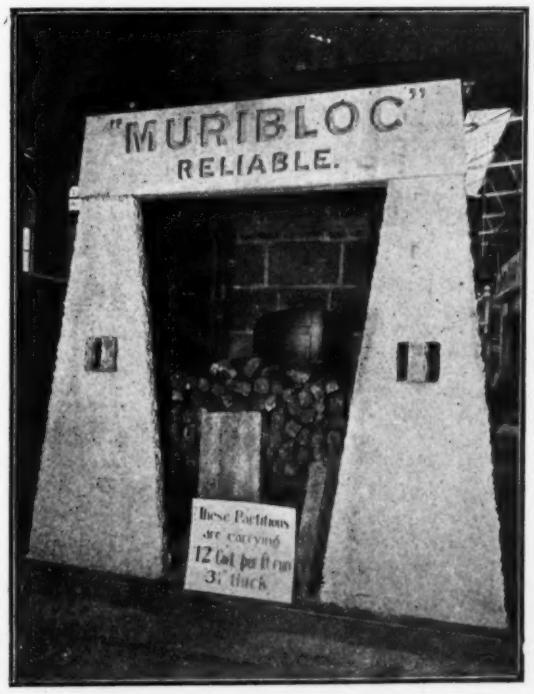
All Slabs Guaranteed
Against
Expansion or Contraction.

For PARTITIONS,
BUNGALOWS,
HOSPITALS,
GARAGES.

Fire, Sound, and Vermin
Resisting.

SPECIAL SLABS OR BLOCKS
MADE TO DRAWINGS ON
SHORTEST NOTICE.



Building Trades Exhibition, 1912. Load on 3½-in. Slabs, 12 cwt. per ft. run.

STANDARD SIZES.

PARTITION BUILDING SLABS.
16 in. by 27 in. by 1½ in., 2 in., 2½ in., 2¾ in., 3½ in., 4½ in., and 6 in.

REINFORCED LINTOLS.
3 ft. to 7 ft. long by 9 in. deep and above thicknesses.

SPECIAL INTERDOWEL SLABS.
2 in. thick.

MACHINE MIXING ONLY.

THE STRONGEST JOINT EXISTING.

COMPETITIVE PRICES.

MURIBLOC (PARTITION SLABS), LTD.,

Telephone: 1312 Battersea. *Registered Offices and Works:* ***PRINCES WHARF, WANDSWORTH.*** Telegrams: "Muribloc, Wandsworth."

ENGINEERING, etc.—*continued.*

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

OCTOBER 6.—**Brisbane.**—CABLE, ETC.—Supply to the Deputy Postmaster General, Brisbane, of (1) 2,860 yds. of silk and cotton insulated switchboard cable; (2) iron or steel poles and fittings; (3) 38 miles of covered wire; and (4) 1,000 porcelain insulators. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

OCTOBER 6.—**Melbourne.**—LATHES, ETC.—For supply of two 12-in. gap lathes and twenty "V" double side tipping waggons, for the Victorian Railway Commissioners. Copy of specifications at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

NOVEMBER 30.—**Australia.**—DESTRUCTOR PLANT.—Supply and erection at Hawthorn, Victoria, for the Hawthorn, Malvern, Camberwell, and Kew Destructor Trust of a complete destructor plant. Copy of specification at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

ROAD, SANITARY, AND WATER WORKS.

SEPTEMBER 6.—**Kinsale.**—WATER.—Supply and laying of about 250 yds. of 6-in. cast-iron pipes, for the Kinsale Urban District Council. Specification of the Town Surveyor, Court House, Kinsale.

SEPTEMBER 8.—**Longbenton.**—SANITARY.—Alterations of privies, ashpits, and coalhouses, cementing of yards, and drainage repairs at Anderson's-buildings, Burradon, and 3, Oakfield-terrace, Forest Hall, for the Longbenton U.D.C. Specifications at the Council Offices.

SEPTEMBER 8.—**Northwich.**—WATERWORKS.—(*a*) Supply of about 120 tons of cast-iron pipes; (*b*) laying of about 920 yds. of 14-in. pipes and works connected therewith, for the U.D.C. of Northwich. Quantities from the Engineer, Mr. C. E. Newton, 19, Cooper-street, Manchester. Deposit, £1 1s.

SEPTEMBER 9.—**Cheadle.**—ROADS.—Road widening and improvement in front of Cringle House, Wilmslow-road, Cheadle, for the U.D.C. of Cheadle and Gatley. Quantities of Mr. F. R. Gibbins, Council Offices, Cheadle, Cheshire.

SEPTEMBER 24.—**Dublin.**—SEWERAGE WORKS.—Construction of temporary works at the Ringsend Pumping Station for the Corporation, and also for the construction of sundry permanent works connected with new screens and gate. Specification of the Consulting Engineer, Mr. John S. Alford, 9, Victoria-street, Westminster. Deposit, £2 2s.

OCTOBER 9.—**Johannesburg.**—WATER PLANT.—Supply to the Municipal Council of a water purifying plant, with a capacity of 75,000 gallons per twenty-four hours. Copy of specification at Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, E.C.

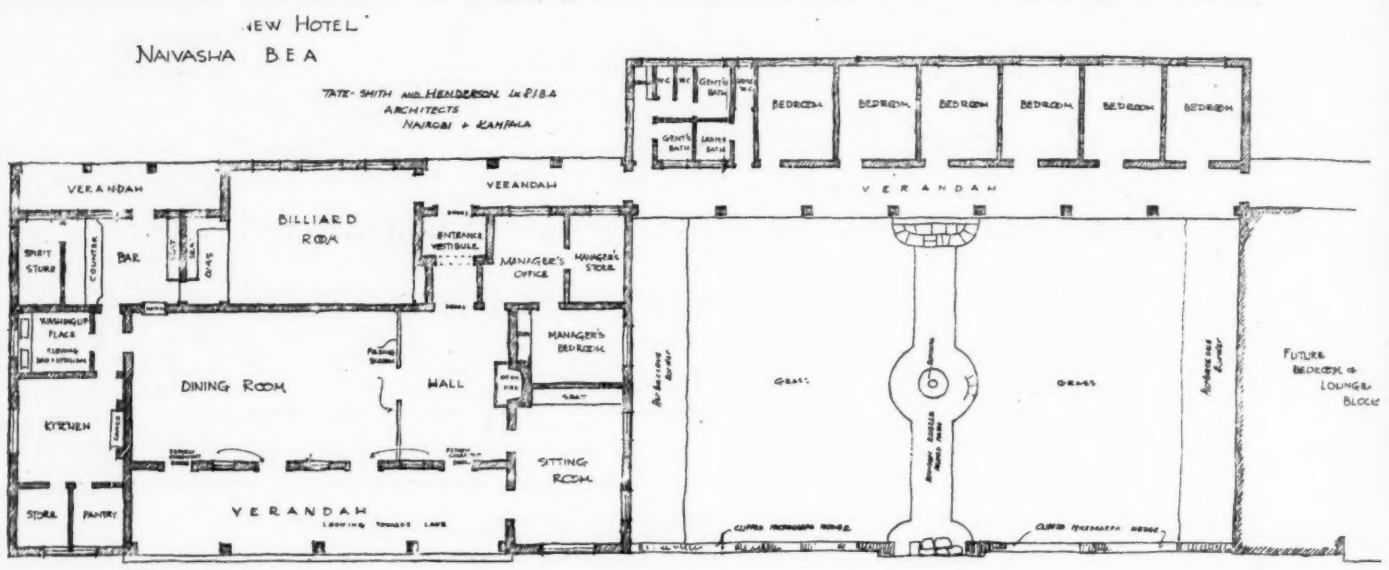
Auction Sale.

* SEPTEMBER 8.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

* SEPTEMBER 9.—**Great Cambridge-street.**—Messrs. Fuller, Horsey, Sons, & Cassell will sell by auction, on the premises, three Scotch derrick cranes.

* SEPTEMBER 23.—**Elmswell.**—Messrs. Fuller, Horsey, Sons, & Cassell will sell by auction, on the premises, engineers' machine tools, brick-making plant and machinery, and 100 tons steel rails.

[Those with an asterisk (*) are advertised in this issue.]



NEW HOTEL AT NAIVASHA, BRITISH EAST AFRICA.

THIS hotel, which has lately been completed, is erected on the shores of the lake, with a background of mountains. Only the left-hand portion and the centre bedroom block have been erected at present, but arrangements are being made to carry out the complete scheme as soon as peace is declared. The building is of local stone, roughcast for more protection from the driving rain from the lake; the roof is of Mangalore tile; floors and joinery of cedar.

The contractor was Mr. J. MacAlister; baths, etc., Carron Iron Company; locks, hardware, Messrs. N. F. Ramsay & Co., Newcastle.

The architects were Messrs. Tate-Smith & Henderson, Licentiate R.I.B.A., Nairobi and Kampala.

Hotel, Naivasha, British East Africa.

Messrs. Tate-Smith & Henderson, Architects.

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Since our last issue timber prices have been thoroughly revised, and lead and lead paint prices have been advanced.—ED.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1000 Alongside, in River Thames.	£ s. d.
Best Stocks	2 0 0
Picked Stocks for Facings	2 15 0

Per 1000, Delivered at Railway Depôt, London.

	£ s. d.		£ s. d.
Flettons	1 16 0	Best Blue Pressed Staffordshire	3 15 0
Best Fareham Red	3 12 0	Do. Bullnose	4 0 0
Best Red Pressed Ruabon Facing	5 0 0	Best Stourbridge Fire Bricks	4 0 0
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers	13 0 0	D'ble Str'tch'rs	18 10 0
Headers	12 10 0	Double Headers	15 10 0
Quoins, Bullnose and 4½ in. Flats	16 10 0	One Side and two Ends	19 10 0
		Two Sides and one End	20 10 0
		Splays and Squints	18 0 0

Second Quality £1 10s. per 1000 less than best.

	s. d.
Thames and Pit Sand	7 9 per yard, delivered.
Thames Ballast	6 6 „ „ „

Per ton, delivered.

	£ s. d.		£ s. d.
Best Portland Cement	2 4 0	..	2 8 0
Best Ground Blue Lias Lime	1 1 0	..	—

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 15s. 6d. per yard delivered.
Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	1 7
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	1 8½
Do. do. delivered on road waggons at Nine Elms Depôt	1 9½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Westbourne Park, G.W.R., South Lambeth, G.W.R., or Nine Elms, L. & S.W.R. per ft. cube	2 5½
Do. do. delivered on road waggons at Pimlico Wharf or Nine Elms Depôt, per ft. cube	2 6½

White Basebed, 2d. per ft. cube extra.

Per Ft. Cube, delivered at Railway Depôt.

	s. d.		s. d.
Ancaster in blocks	1 11	Closeburn Red Freestone	2 2
Beer in blocks	1 7	Red Mansfield Freestone	2 6
Greenshill in blocks	2 0	Talacre & Gwespyr Stone	2 6
Darley Dale in blocks	2 6		
Red Corsehill in blocks	2 6		

YORK STONE—*Robin Hood Quality.*

Per Ft. Cube, Delivered at Railway Depôt.	s. d.
Scappled random blocks	2 10

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 8
6 in. rubbed two sides ditto, ditto	3 2
3 in. sawn two sides slabs (random sizes)	1 0
2 in. to 2½ in. sawn one side slabs (random sizes)	0 8
1½ in. to 2 in. ditto, ditto	0 6½

HARD YORK—

Per Ft. Cube, Delivered at Railway Depôt.

Scappled random blocks	3 0

Per Ft. Super., Delivered at Railway Depôt.

6 in. sawn two sides landing to sizes (under 40 ft. super.)	2 9
6 in. rubbed two sides ditto	3 3
3 in. sawn two sides slabs (random sizes)	1 2½
2 in. self-faced random flags	0 6

TILES.

	Per 1000 f.o.r. London. £ s. d.
Best machine-made tiles or hand-made sand-faced tiles from either Broseley or Staffordshire district	2 12 6
Ornamental ditto	2 15 0
Hip and valley tiles (per dozen)	0 5 6

SLATES.

	Per 1000 of 1200 f.o.r. London. £ s. d.
Best Blue Bangor slates, 20 by 10	11 5 0
First quality „ „	11 0 0
„ „ 16 by 8	5 10 0
Best Blue Portmadoc, 20 by 10	11 2 6
First quality „ „	10 12 6
„ „ 16 by 8	5 10 0

WOOD.

BEST BUILDING REDWOOD.

Imported sizes. Per standard.

	£ s. d.		£ s. d.
Deals: 4 in. by 12 in., 4 in. by 11 in., 3 in. by 11 in., 4 in. by 9 in., and 2 in. by 11 in.	21 10 0	..	22 10 0
3 in. by 9 in., 2½ in. by 9 in., and 2 in. by 9 in.	21 0 0	..	22 0 0

WOOD (*Continued*).

BEST BUILDING REDWOOD. Per standard.

	£ s. d.		£ s. d.
Battens: 2 in., 2½ in., and 3 in. by 8 in.	19 10 0	..	20 0 0
2 in., 2½ in., and 3 in. by 7 in.	19 10 0	..	20 0 0
2 in., 2½ in., and 3 in. by 6 in.	19 0 0	..	19 10 0
2 in., 2½ in., and 3 in. by 5 in.	18 0 0	..	18 10 0
Scantlings: 2 in. by 3 in., 2 in. by 3½ in., 2 in. by 4 in., 2 in. by 4½ in.	18 10 0	..	19 0 0
3 in. by 4 in., and 3 in. by 4½ in.	19 10 0	..	20 0 0
Boards: 1 in., 1¼ in., and 1½ in. by 6 in. and 7 in.	0 10 0	more than battens.	
¾ in.	1 0 0	„	
Seconds: building quality deals, battens, boards, and scantlings	1 0 0	less than best.	
Best Middling Dantzic and Memel Fir Timber Logs (average specification)	Per load of 50 ft. cu. 7 10 0	..	—
Seconds do. do.	7 0 0	..	—
9 in. to 10 in. do.	6 10 0	..	—
6 in. to 8 in. do.	6 0 0	..	—
Stocks very limited.			
Sawn pitch pine logs (about 35 cu. ft. average)	Per load. 8 0 0	..	8 10 0
Do. 6 in. to 10 in.	6 5 0	..	6 10 0
Sawn Swedish Balks 4 in. by 4 in. to 6 in. by 7 in.	6 0 0	..	6 10 0
	Per standard.		
Best Pitch Pine Deals	34 0 0	..	35 0 0
Rio do.	23 0 0	..	25 0 0
Under 2 in. thick	0 10 0	extra.	

JOINERS' WOOD.

White Sea First Quality Red: 4 in. by 11 in.	35 0 0	..	36 0 0
3 in. by 11 in., and 2 in. by 11 in.	34 0 0	..	35 0 0
4 in. by 9 in.	33 0 0	..	34 0 0
3 in. by 9 in., and 2½ in. by 9 in.	32 0 0	..	33 0 0
9 in. by 11 in. boards	1 10 0	more than deals.	
7 in. and 8 in. battens	24 0 0	..	25 0 0
7 in. and 8 in. boards	1 0 0	more than battens.	
Seconds quality	2 0 0	less than best.	
Third quality	£2 to £3	less than seconds.	
Archangel White Deals— Best 3 in. by 11 in.	28 0 0	..	29 0 0
3 in. by 9 in. and 10 in.	26 0 0	..	27 0 0
Seconds, do.	1 10 0	less than best.	
U.S. Battens	19 10 0	..	20 0 0
Prepared Floorings and Matchings, Seconds Swedish Red and equal—	Per square actual.		
1¼ in. by 7 in. planed and shot	1 4 0	..	1 5 0
1¼ in. by 7 in. planed and matched	1 4 6	..	1 5 0
1 in. by 7 in. planed and shot	0 19 0	..	1 0 0
1 in. by 7 in. planed and matched	0 19 6	..	1 0 6
¾ in. by 7 in. planed, matched and beaded, or V jointed	0 15 0	..	0 16 0
1 in. by 7 in. do.	0 19 6	..	1 0 6
⅝ in. by 7 in. do.	0 12 6	..	0 13 0
6 in. at 6d. per square less than 7 in.			
5 in. and 5½ in. at 6d. per square less than 6 in.			
White Floorings at 6d. to 1s. per square less than Redwood.			
Columbian or Oregon Pine, best quality	Per standard. 28 0 0	..	29 0 0
Yellow Pine—First, regular sizes	57 0 0	upwards.	
Oddments	39 0 0	„	
Seconds, regular sizes	43 10 0	„	
Oddments	37 10 0	„	
Kauri Pine—Planks per ft. cube	0 7 6	..	—
Oak Logs— Large, per ft. cube	0 6 0	..	0 6 6
Small „ „	0 5 0	..	0 5 6
Wainscot Oak Logs, per ft. cube	0 10 6	..	0 12 6
Dry Wainscot Oak, per ft. super, as inch	0 1 0	..	0 1 3
¾ in. do. do.	0 0 10	..	0 1 0
Dry Mahogany—Honduras, Tabasco, per ft. super, as inch	0 1 0	..	0 1 4
Selected, Figury, per ft. super, as inch	0 1 6	..	0 2 6
Cuba Mahogany	0 1 6	..	0 2 6
Dry Walnut, American, per ft. super, as inch	0 1 0	..	upwards. 0 1 3
French, "Italian," Walnut	0 1 0	..	0 1 6
Teak, per load (Rangoon or Moulmein)	28 0 0	..	34 0 0
Do. do. (Java)	25 0 0	..	27 0 0
American Whitewood planks, per ft. cube	0 6 6	..	0 7 6

METALS.

JOISTS, GIRDERS, &c.

	In London or delivered Railway Vans, per ton. £ s. d.		£ s. d.
Rolled Steel Joists, ordinary sections	13 10 0	..	14 10 0
Compound Girders, ordinary Sections	16 0 0	..	17 0 0
Steel Compound Stanchions	16 10 0	..	17 10 0
Angles, Tees, and Channels, ordinary sections	15 0 0	..	15 10 0
Flitch Plates	15 0 0	..	15 10 0
Cast Iron Columns and Stanchions, including ordinary patterns	12 0 0	..	12 10 0
IRON—	Per ton, in London.		
Common Bars	13 10 0	..	—
Staffordshire Crown Bars, good merchant quality	14 0 0	..	14 10 0
Staffordshire "Marked Bars"	14 10 0	..	15 0 0

METALS (*Continued*).

IRON (*Continued*)—	Per ton, in London. £ s. d.		£ s. d.
Mild Steel Bars	14 0 0	..	14 10 0
Steel Bars, Ferro-Concrete quality, £15 basis price.			
Hoop Iron, basis price	15 0 0	..	—
„ „ Galvanised	27 10 0	..	—
(* And upwards, according to size and gauge.)			
Sheet Iron Black— Ordinary sizes to 20 g.	14 0 0	..	—
„ „ 24 g.	15 0 0	..	—
„ „ 26 g.	16 10 0	..	—
Sheet Iron, Galvanised flat, ordinary quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	24 10 0	..	—
Ordinary sizes to 22 g. and 24 g.	25 10 0	..	—
Ordinary sizes to 26 g.	26 10 0	..	—
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	26 10 0	..	—
„ „ 22 g. and 24 g.	27 0 0	..	—
Ordinary sizes to 26 g.	27 10 0	..	—
Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 8 ft. 20 g.	24 10 0	..	—
Ordinary sizes, 22 g. and 24 g.	25 0 0	..	—
Ordinary sizes, 26 g.	25 10 0	..	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	16 10 0	..	—
Best Soft Steel Sheets, 22 g. & 24 g.	17 0 0	..	—
Best Soft Steel Sheets, 26 g.	18 10 0	..	—
Cut Nails, 3 in. to 6 in.	15 10 0	..	—

(Under 3 in., usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		
LEAD—Sheet, English, 4 lb. and up	29 0 0	..	—
Pipe in coils	29 10 0	..	—
Soil pipe	32 10 0	..	—
Compo pipe	32 10 0	..	—

NOTE—Country delivery 15s. per ton extra; lots under 5 cwt. 1s. per cwt. extra.

COPPER— Strong Sheet	per lb.	0 1 5	..	—
Thin „	„	0 1 6	..	—
Copper nails	„	0 1 5	..	—
Copper wire	„	0 1 5	..	—
BRASS— Strong Sheet	„	0 1 3	..	—
Thin	„	0 1 4	..	—
TIN—English Ingots	„	0 1 7	..	—
SOLDER—Plumbers'	„	0 0 8	..	—
Tinmen's	„	0 0 11	..	—
Blowpipe	„	0 1 1	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

Per Ft.

21 oz. thirds	5½d.	32 oz. thirds	8½d.
„ fourths	5d.	„ fourths	7d.
26 oz. thirds	6½d.	Fluted Sheet, 15 oz.	5½d.
„ fourths	5½d.	„ 21 oz.	6½d.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

Per Ft.

¼	Rolled plate	3½d.
1/16	Rough rolled and rough cast plate	3½d.
¼	Rough rolled and rough cast plate	4d.
	Figured Rolled, Oxford Rolled, Oceanic, Arctic, Muffled, and Rolled Cathedral, white	4½d.
	Ditto, tinted	6d.
	Rolled Sheet	3½d.

OILS, &c.

		£ s. d.
Raw Linseed Oil in pipes	per gallon	0 2 3
„ „ „ in barrels	„	0 2 4
„ „ „ in drums	„	0 2 7
Boiled „ „ in barrels	„	0 2 6
„ „ „ in drums	„	0 2 10
Turpentine in barrels	„	0 2 11
„ in drums	„	0 3 2
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		39 0 0
Red Lead, Dry	per ton	40 0 0
Best Linseed Oil Putty	per cwt.	0 10 0
Stockholm Tar	per barrel	1 12 0

GENUINE WHITE LEAD PAINT—

Blackfriars, Nine Elms, or Park, etc., brands (in 14 lb. tins), not less than 5 cwt. lots ..... per ton delivered 46 15 0

VARNISHES, &c.

	Per gallon. £ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 9
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 6
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 6

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

TO CORRESPONDENTS.

NOTE.—All communications with respect to literary and artistic matters should be addressed to "THE EDITOR" (and not to any person by name); those relating to advertisements and other exclusively business matters should be addressed to THE BUILDER LTD., and *not* to the Editor.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples sent to or left at this office, unless he has specially asked for them.

All drawings sent to or left at this office for consideration should bear the owner's name and address on either the face or back of the drawing. Delay and inconvenience may result from inattention to this.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 2 *p.m. on Wednesday*. [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

CHELTENHAM.—For erection of stables, fodder stores, van-shed, &c., and alterations to existing buildings in Market-street, Cheltenham, for Gloucester Co-operative and Industrial Society, Ltd. Mr. T. Malvern, Licentiate R.I.B.A., architect, 21, Winchcombe-street, Cheltenham :—

E. Saunders & Sons	£2,621 3 6
W. Drew	2,462 5 6
Y. J. Lovell & Son	2,460 0 0
T. J. Williams	2,445 4 5
A. C. Billings & Sons, Ltd.	2,366 0 0
W. Jones	2,240 0 0
S. Robertson, Ltd.	2,238 15 4
R. R. Skemp	2,197 10 0
W. J. B. Halls	2,118 0 0
Collins & Godfrey	2,094 0 0
A. Wilson & Son, Cheltenham*	2,039 0 0

CHELMSFORD.—For painting the exterior of 38 working-class dwellings in Ramsford-lane and Cramphorn-rd, for the Town Council. Mr. P. T. Harrison, A.M.Inst.C.E., Borough Engineer, Municipal Offices, Chelmsford :—

Bratchell, Hornchurch £43

FOLESHILL.—General builder's work in connection with extensions of machine shops, for Messrs. Webster & Bennett, Ltd. Mr. Albert Herbert, architect :—

W. H. Jones & Son	£2,750
Garlicks, Ltd.	2,650
E. Kelley & Son	2,345
J. Bentley	2,329
Wellerman, Ltd., Hyde*	2,282

FOLESHILL.—For steelwork in connection with extension of machine shops, for Messrs. Webster & Bennett, Ltd. Mr. Albert Herbert, architect :—

		Weeks required.
Lambourne	£2,449	—
E. C. & J. Keay	2,368	—
E. Wood & Co.	2,295	—
Mattersons	2,254	—
A. & J. Main	2,250	—
Clyde Steel Co., Glasgow*	2,025	10
Richards & Son	1,854	20

LEICESTER.—For farm buildings for Mr. Arthur Wilkes, Uplands Estate. Messrs. Clare & Simons, architects, 2, Berridge-street, Leicester. Quantities by architects :—

R. Salter & Son	£165 0 0	W. Potter	£139 0 0
F. Sleath	162 17 9	G. Gurney*	138 19 0

LONDON, S.W.—For painting, distempering, and general repairs at their Infirmary in the Fulham-road, S.W., for the City of Westminster Union :—

M. M. McCarthy, 155, King's-avenue, Clapham Park, S.W.* £189

STOCKPORT.—For temporary grocery department, 58 and 60, Chestergate, Stockport, for the Stockport Industrial and Equitable Co-operative Society, Ltd. Messrs. Wrathmell & Blackshaw, architects, St. Peter's-square, Stockport :—

Westhead & Swindells, Crescent-rd., Brinnington* £249

WIGSTON MAGNA.—For steelwork in connection with the construction of a factory for Two Steeples, Ltd. Messrs. Clare & Simons, architects, 2, Berridge-street, Leicester. Quantities by the architects :—

Gimson & Co., Leicester* £2,018

MORLEY.—Accepted for erection of two-story mill premises, engine-house and boiler-house, engine-bed and two-story warehouse at Perseverance Mills, Morley, for Messrs. A. Marshall & Son, Ltd. Mr. T. A. Buttery, architect and surveyor, Queen-street, Morley :—

Mason and Joiner: Harrison, Spensley, High-street, Morley	£3,150 0
Plumber: J. W. Staker, Queen-street, Morley	219 15
Plasterer: J. Iredale & Son, Bradford-road, Borstall	184 0
Slater: J. Kellett, Fountain-street, Morley	119 7
Ironfounder: Roberts & Co., Cutler Heights, Bradford	804 5

WIGSTON MAGNA.—For the construction of new factory for Two Steeples, Ltd. Messrs. Clare & Simons, architects, 2 Berridge-street, Leicester. Quantities by architects :—

Jones & Son	£6,525 0 0
F. Sleath	5,747 0 0
Clark & Garrett	5,580 0 0
J. Cole & Son	5,359 0 0
F. Oldenshaw	5,304 12 9
F. Bradford	5,224 17 0
W. Potter*	5,050 0 0

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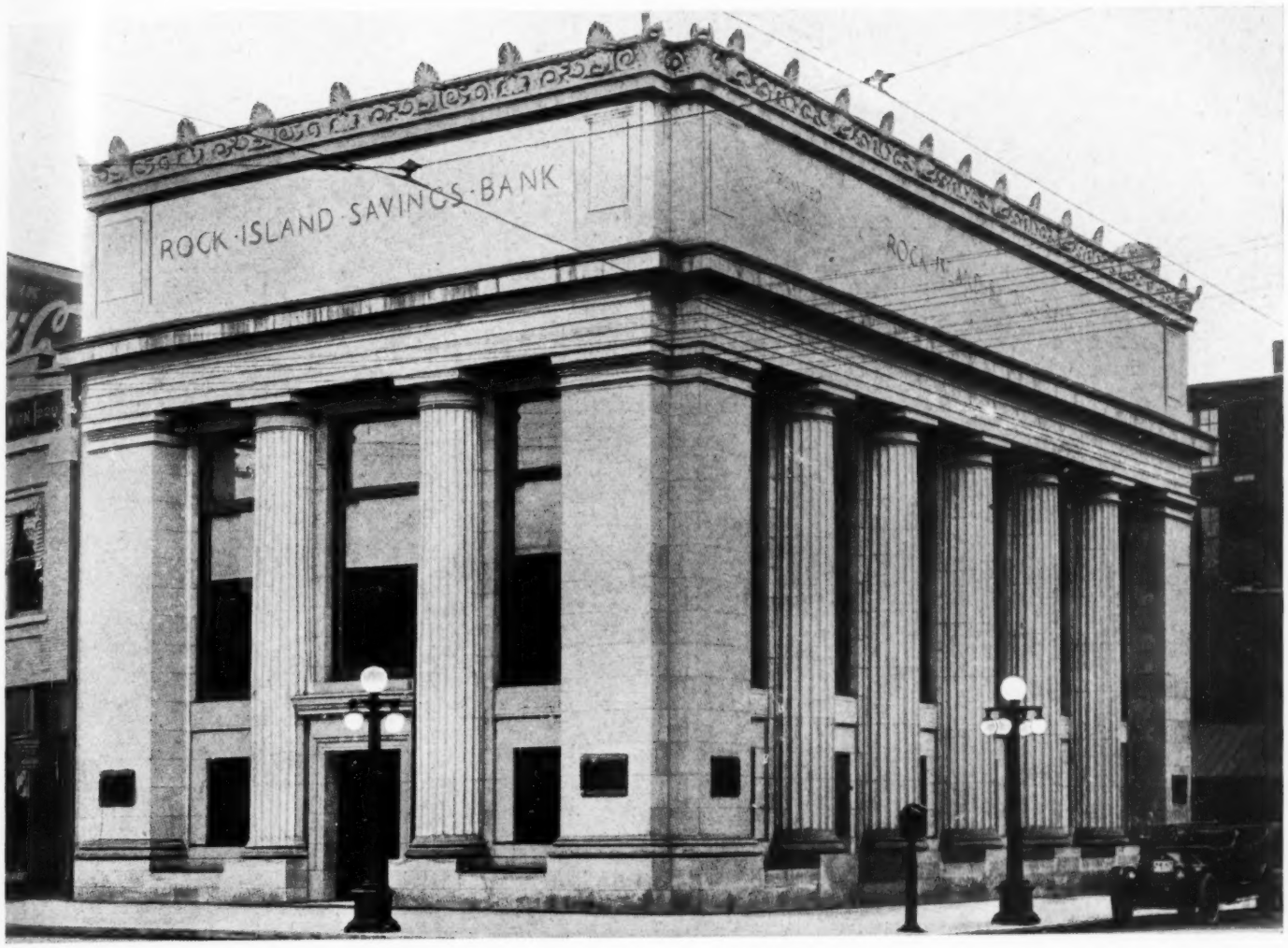

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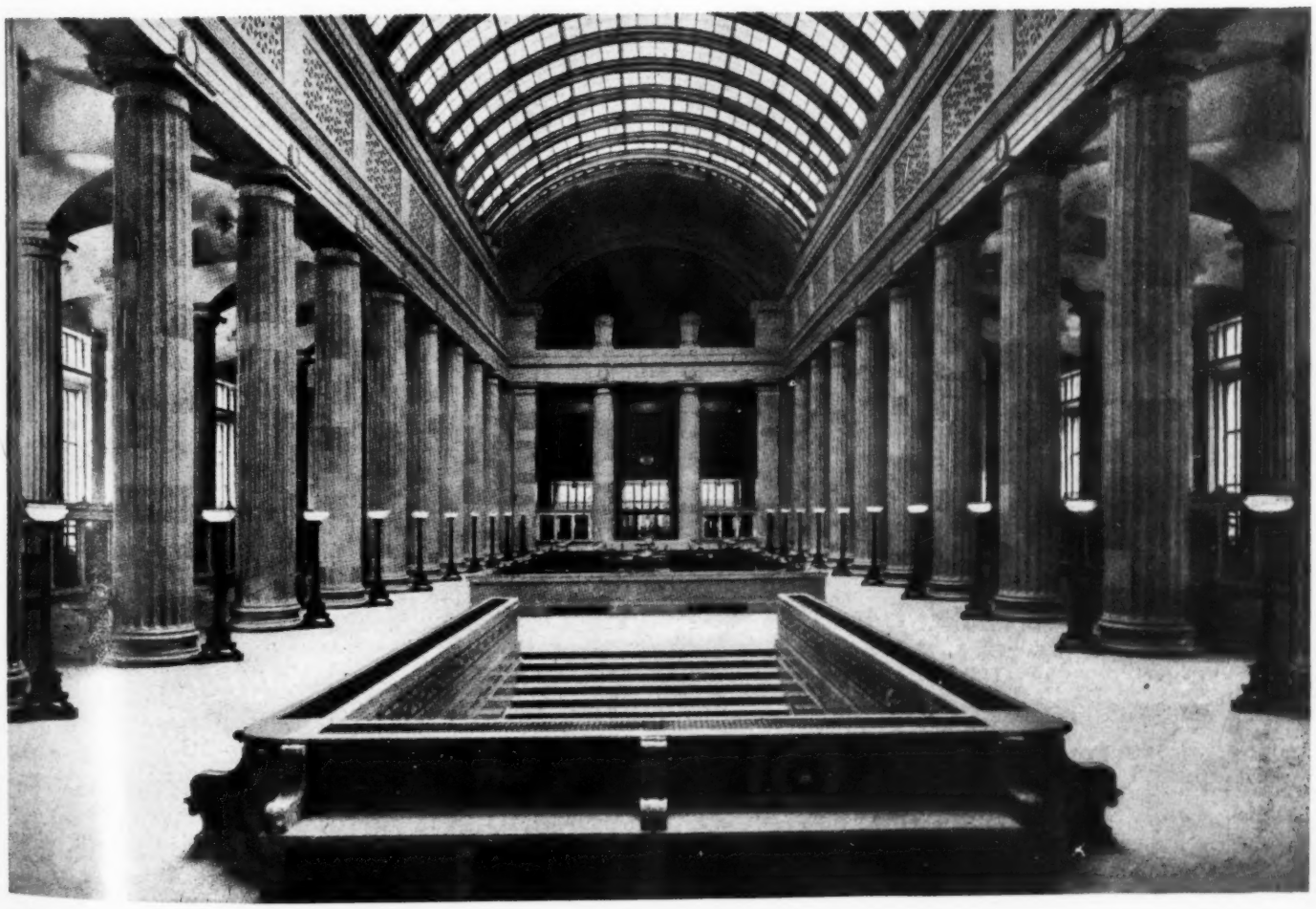

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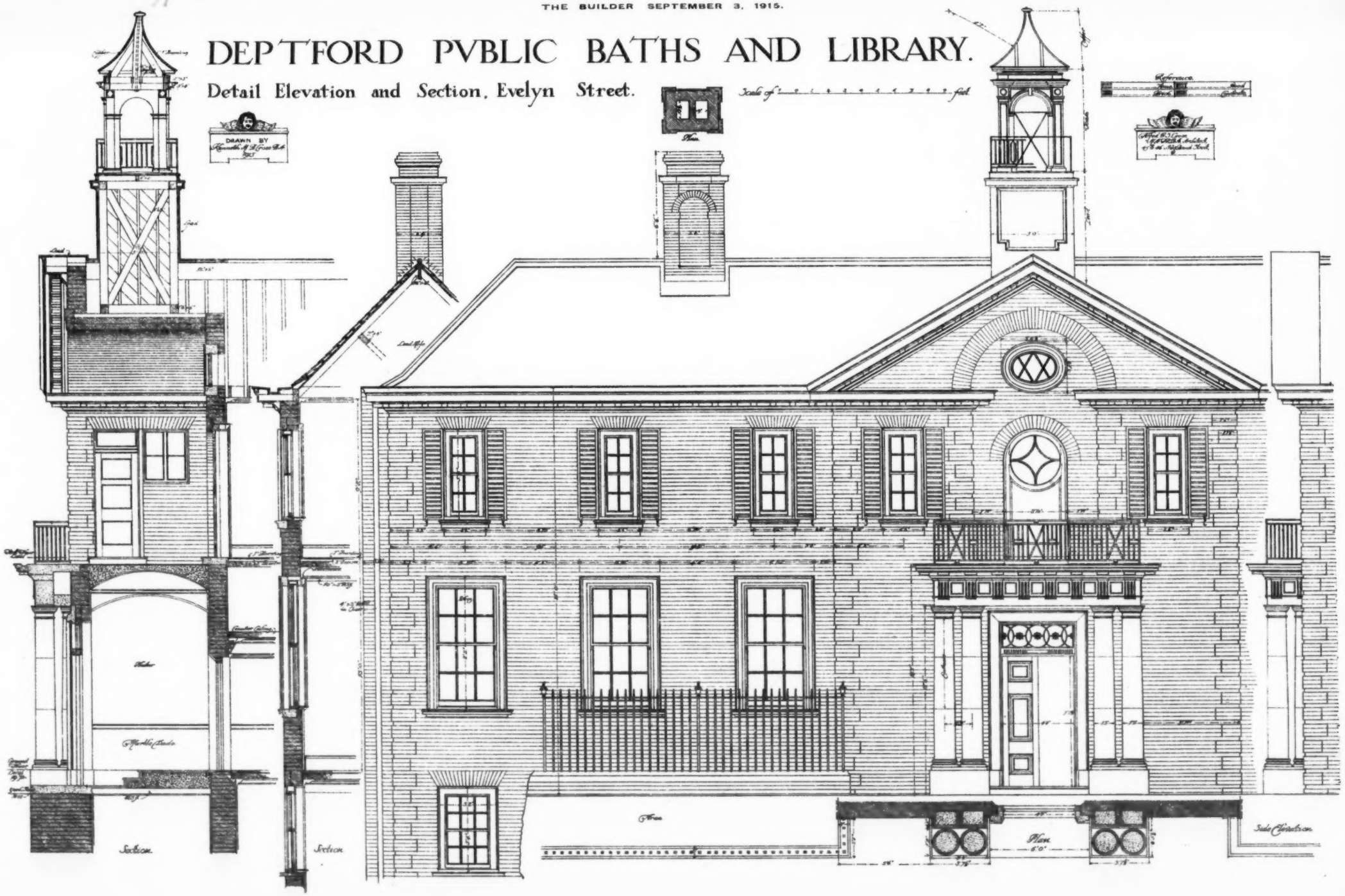
Detail Elevation and Section, Evelyn Street.



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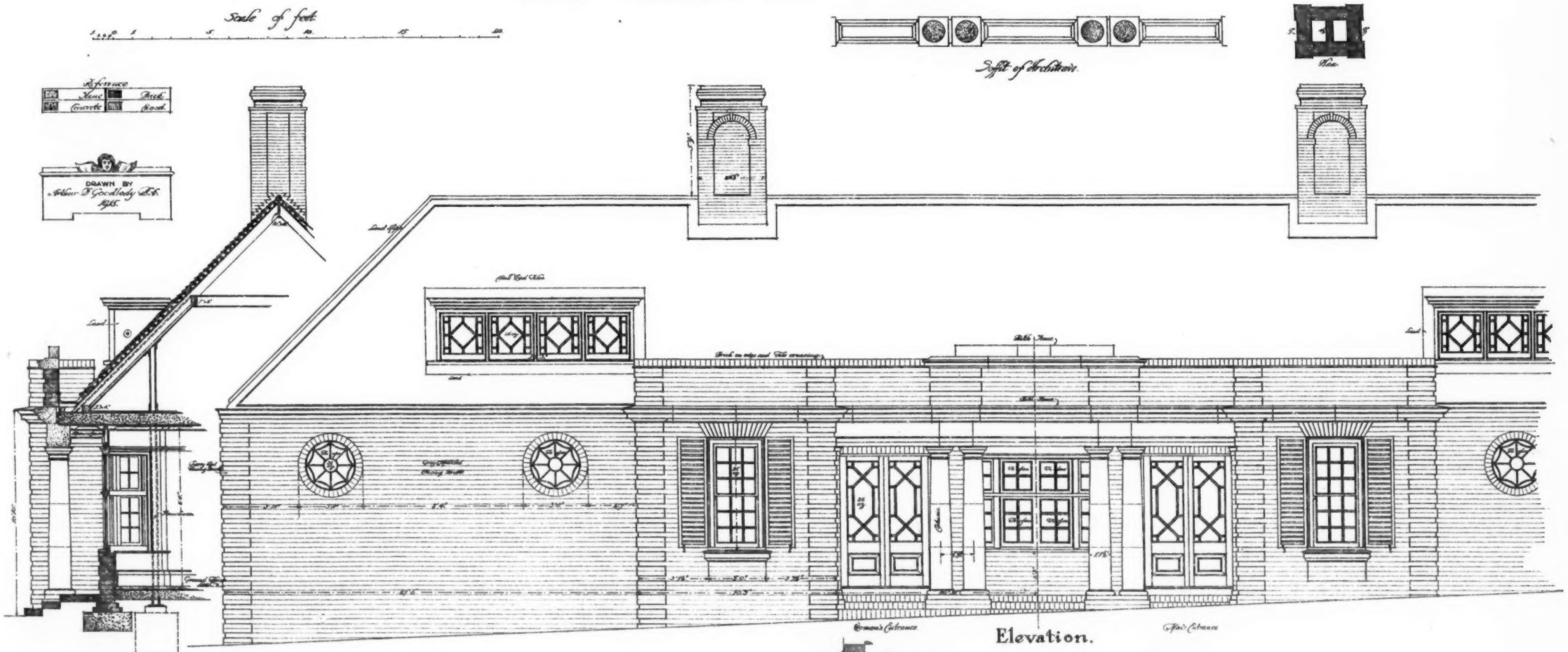
PVBLIC BATHS FINCHLEY.

DETAIL ELEVATION AND SECTION.



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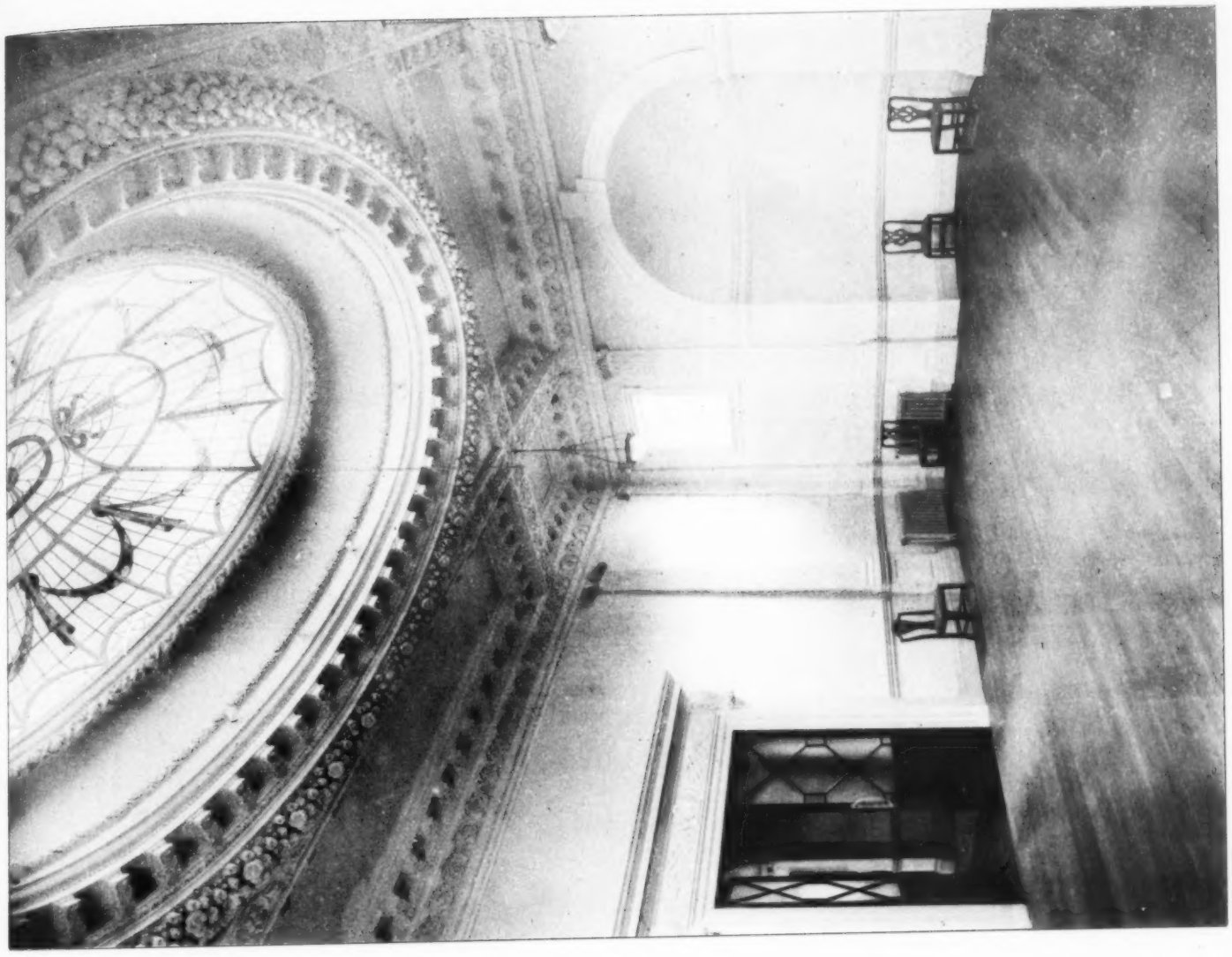

COUNTY ASSEMBLY ROOMS, LINCOLN: ADDITIONS.—MESSRS. W. WATKINS & SONS, ARCHITECTS.

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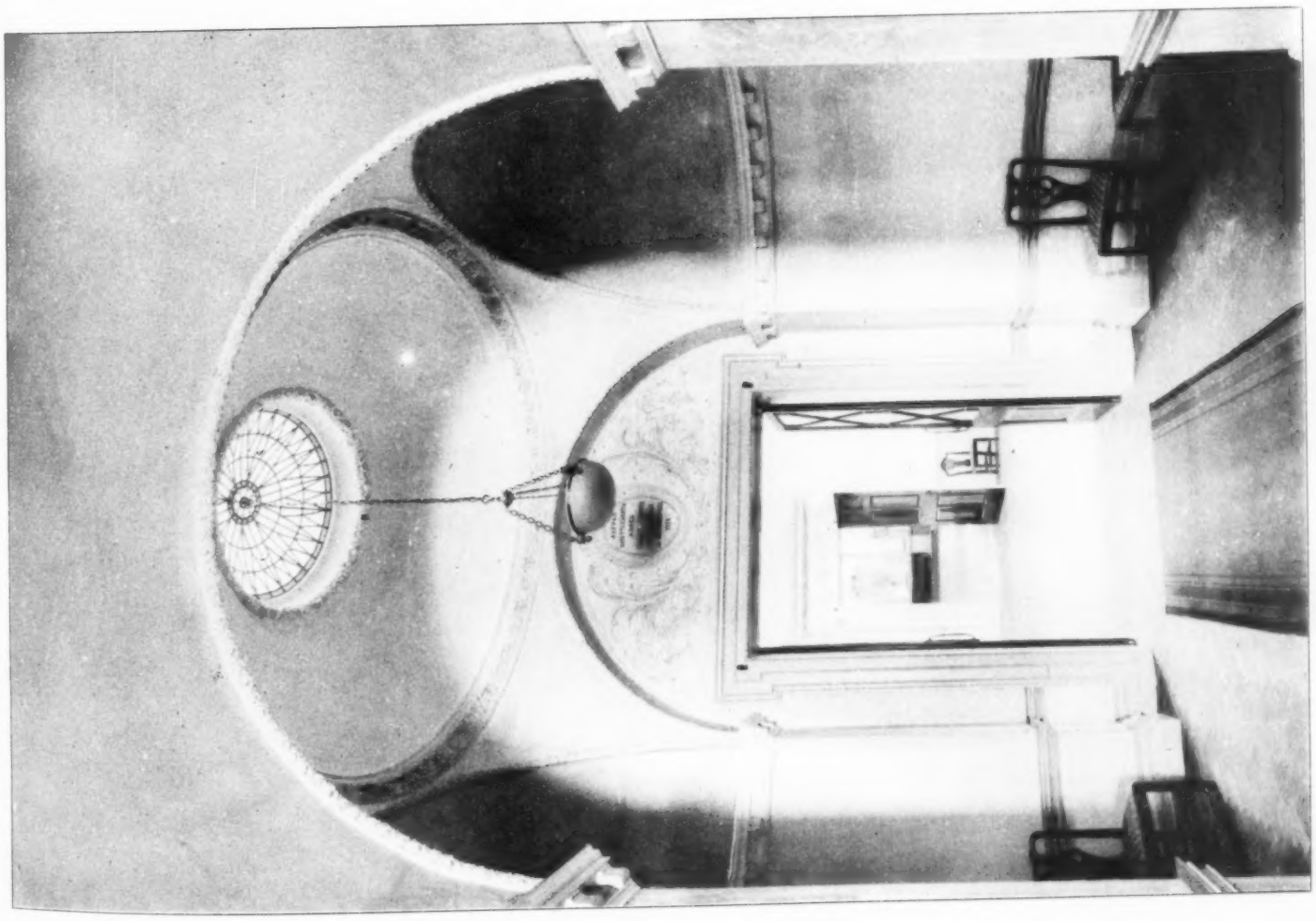

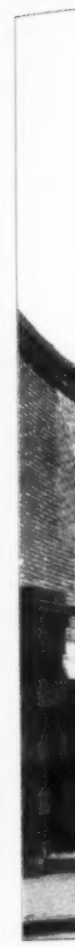

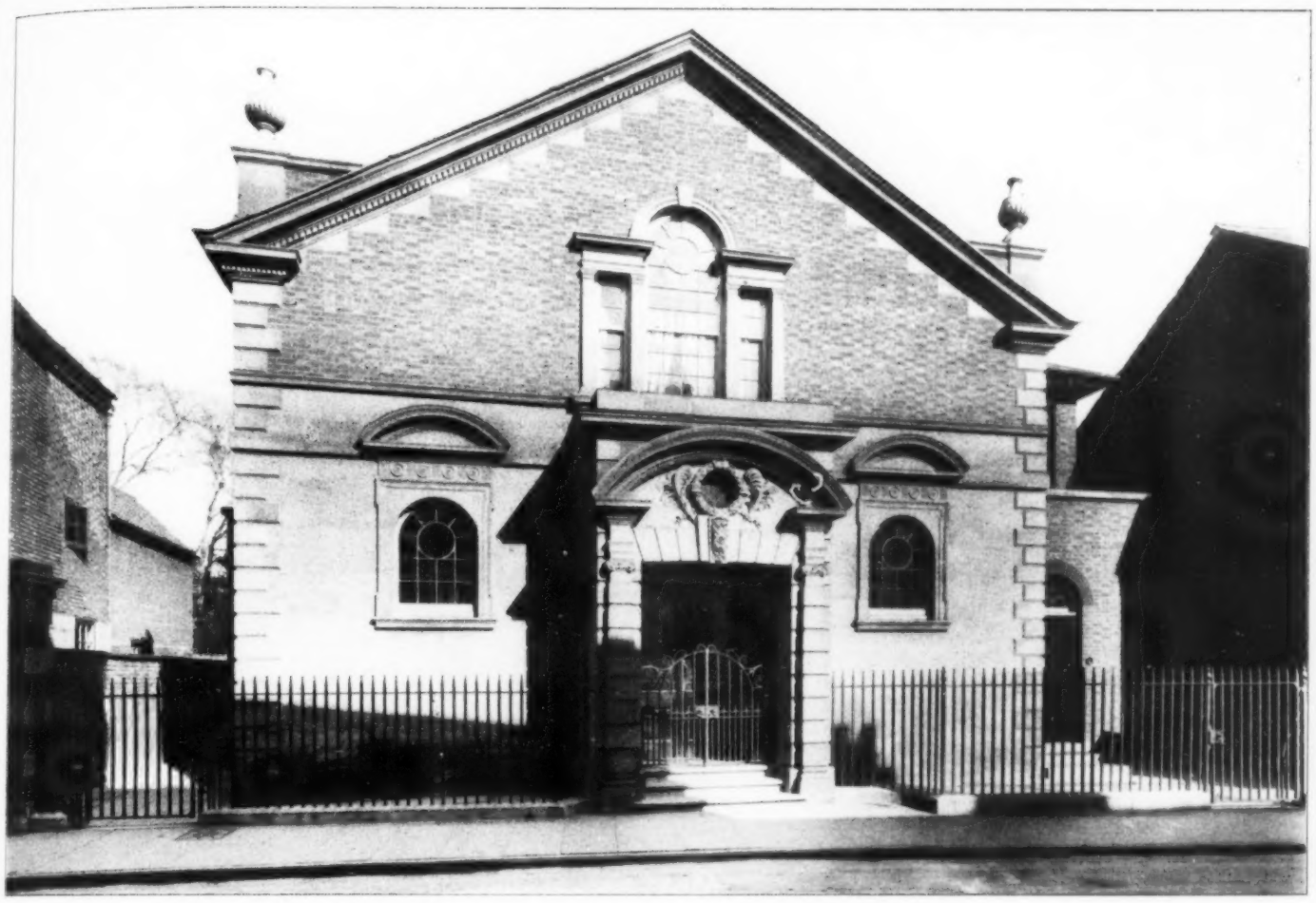

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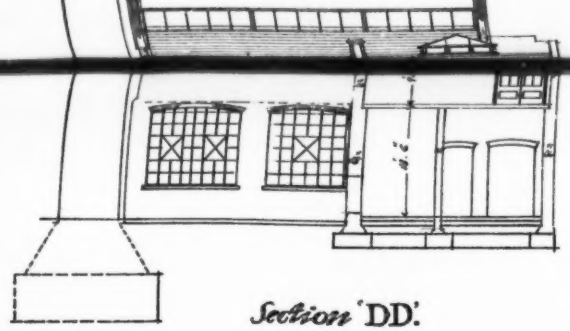

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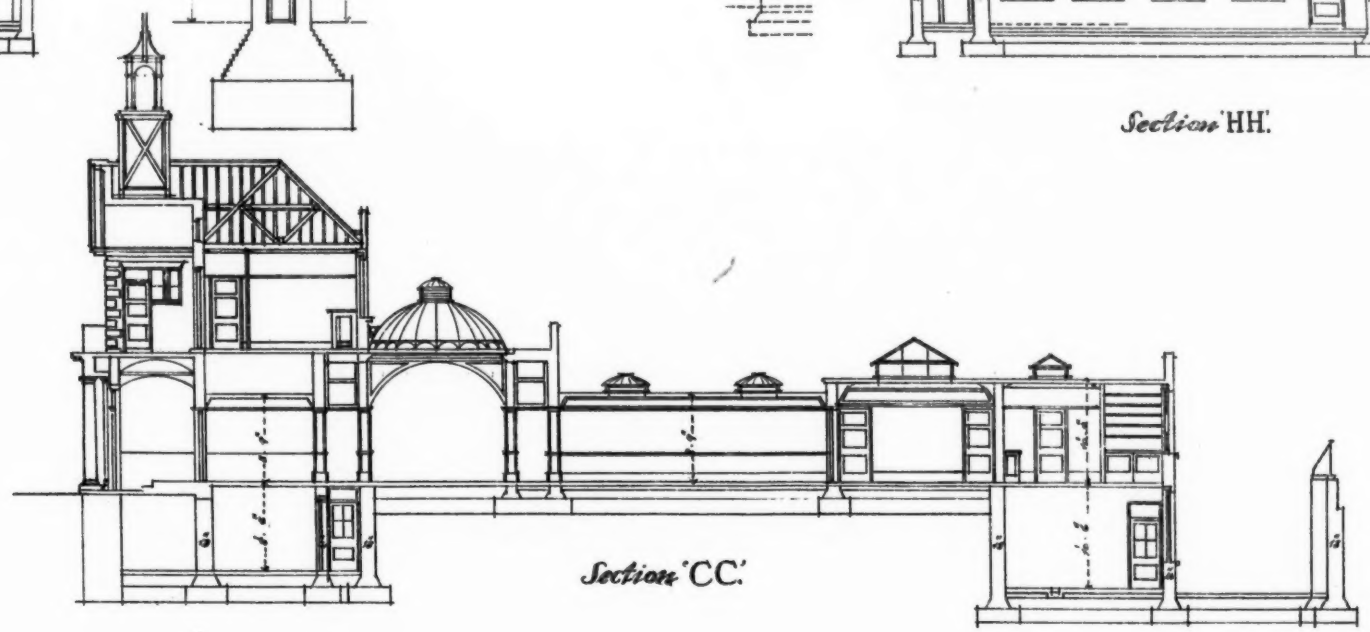

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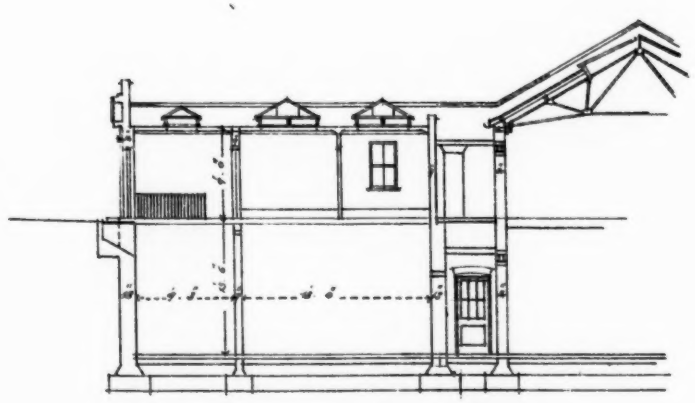

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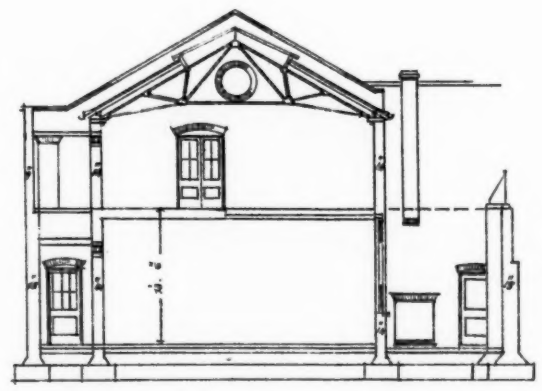

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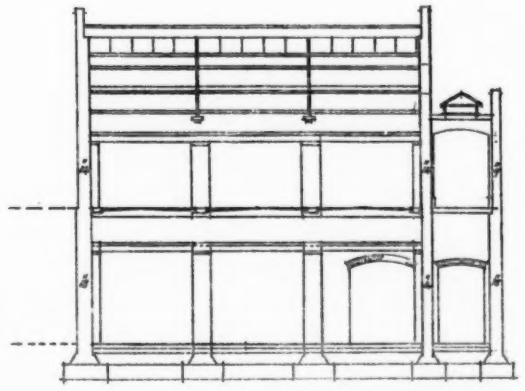

Section 'GG.'

Scale of feet.

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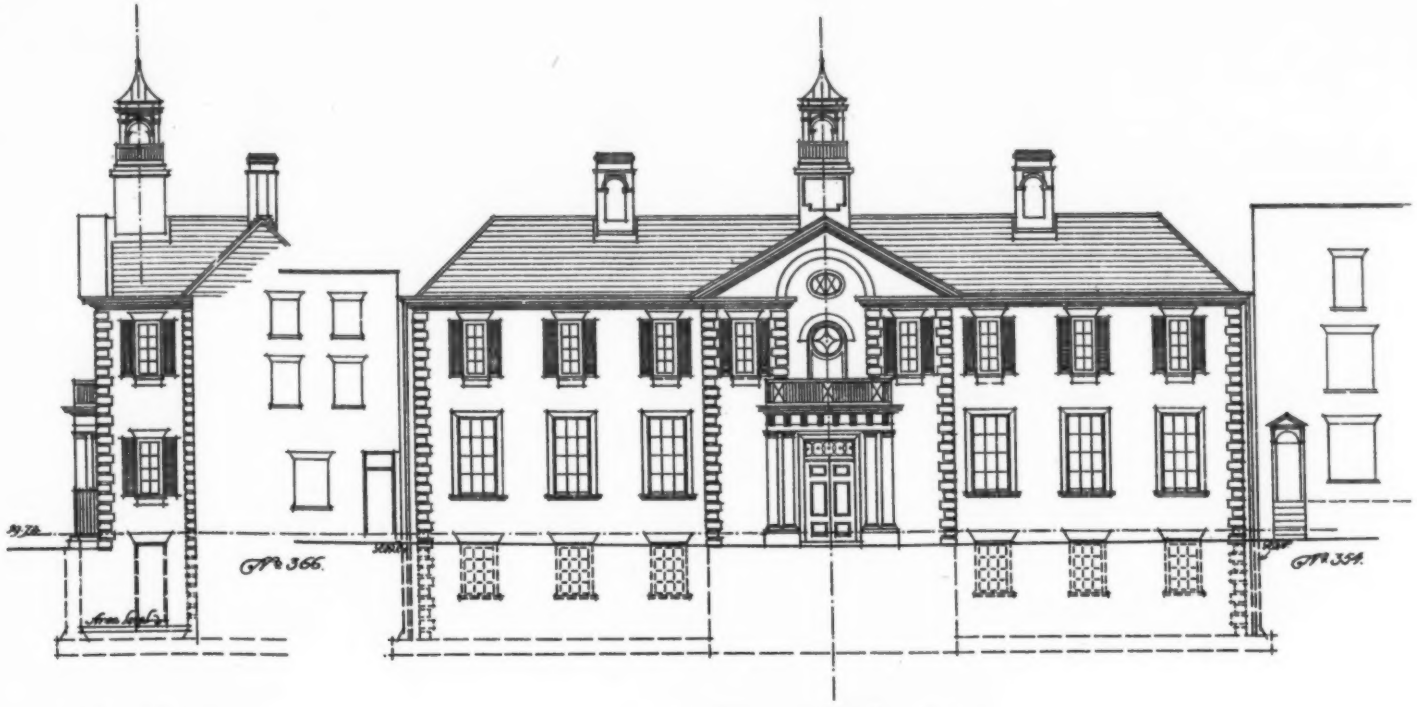
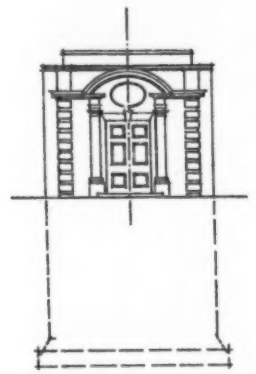
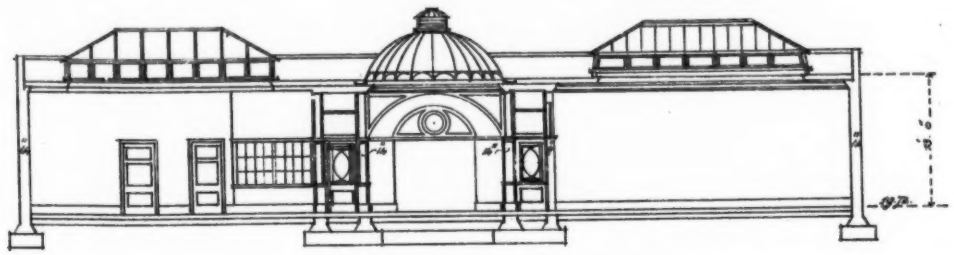


Side Elevation.
Portion.

Front Elevation.
Belgrave Street.



Back Elevation.
Clyde Street.



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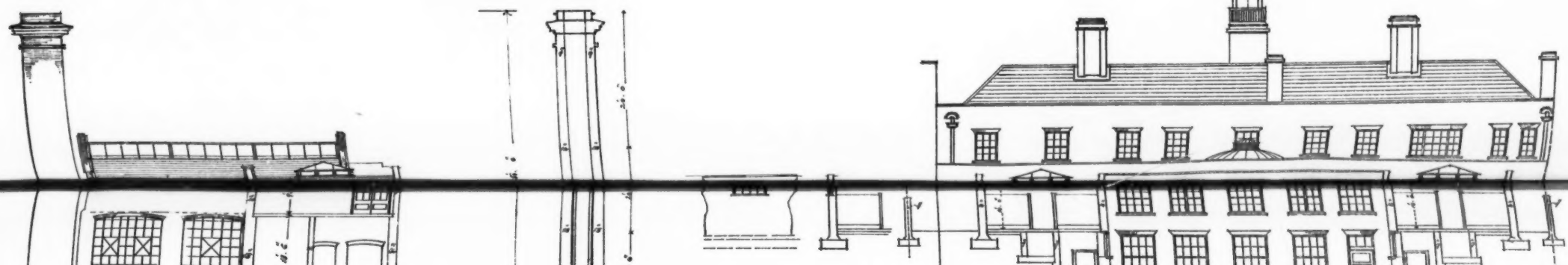
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